

Eastern Nile Technical Regional Office (ENTRO)

**A Synthesis Report on
Socio-Economic Profile of Abbay-Blue Nile, Baro-
Akobo-Sobat-White Nile, Tekeze-Setit-Atbara and
Main Nile Basins**

Addis Ababa

April 2007

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Executive Summary

Background

The Eastern Nile Technical Regional Office (ENTRO), established to help the sub-region countries of Ethiopia, Sudan and Egypt improve their capabilities to develop and use their shared waters along the Eastern Nile (EN), has commissioned three country-level studies for Ethiopia, Sudan and Egypt. For each country, three themes were identified and covered: water resources, environment and socio-economic. Each theme was handled by a national consultant of the respective countries who was hired to compile relevant thematic information that influence or are influenced by the three sub basins of the Eastern Nile –Abbay-Blue Nile, Baro-Akobo-Sobat-White Nile and Tekeze-Setit-Atbara (Box 1).

The main objective of the assessment was to create a regional knowledge base which will facilitate high level dialogue and cooperation among countries of the Eastern Nile Basin (Ethiopia, Sudan and Egypt) for the purpose of initiating and developing integrated plans for the development, control and use of water resources. In the area of the socio-economic theme, three separate reports covering Ethiopia, Sudan and Egypt have been produced by consultants of the respective countries. Although the coverage and depth of information compiled by each of the three consultants vary from country to country, they all attempt to provide qualitative and quantitative descriptions of the socio-economic characteristics of individual sub basins in each country. The reports have exclusively relied on secondary data compiled from various government statistics, studies conducted by universities, non-government organizations, and research institutions of the respective countries.

Now, there is a need to systematize and consolidate the socio-economic information gathered at country-level focusing on the hydrologically-defined geographic area of the EN crisscrossing national borders. The goal is to compile the assembled socio-economic data on the basis of a no-border basin perspective that recognizes the ecological integrity of each basin.

Therefore, this report is a synthesis of results of the three socio-economic studies to create *One System Inventory* on major socio-economic features of the EN and its sub-basins. The report begins with a synthesis of comparative assessment of the four basins based on selected socio-economic features and then presents: (1) socio-economic features of the Abbay-Blue Nile; (2) socio-economic features of the Baro-Akobo-Sobat-White Nile Basin, (3) socio-economic features of the Tekeze-Setit-Atbara River Basin and (4) socio-economic features of the Main Nile Basin.

Comparative assessment of the four sub basins

Environment and Hydrology of the basins

All the three sub basins that form the Main Nile (namely, Abbay-Blue Nile, Baro-Akobo-Sobat-White Nile and Tekeze-Setit-Atbara River Basins) have their origin in Ethiopian highlands traversing through Sudan before forming the Main Nile. The rains in Ethiopia, which fall in June through September, constitute the main source of water for the sub basins. Over 80% of the Main Nile's entire water originates from this mountainous area of Ethiopia especially during the heavy rainfall season. The three basins tend to be characterized by relatively wetter climate in the upper reaches and then experience humid to semi-humid and semi-arid to arid conditions as they travel through vast areas of gorges, valleys and lowlands.

Average annual rainfall ranges from 1300 mm for Tekeze basin to 1419 mm for Baro-Akobo and 1420 mm for Abbay-Blue Nile basin. Rainfall generally decreases as elevation descends from the Ethiopian highlands and the hydrology of the highlands determines the amounts of water entering the Blue Nile, Atbara and Sobat portions of the basins in Sudan, which all join to form the Nile basin in Egypt. With the exception of Baro-Akobo sub basin, the two basins have similar characteristics; they have unpredictable infrequent rainfall patterns, mountainous landscape, and relatively low fishing activity. Baro-Akobo sub basin is more or less marshy and floodplain area (Hussein & Yared, 2003).

The Tekeze sub basin originates from the northern Ethiopian highlands traveling from east to north crisscrossing valleys and lowlands and touching the adjacent regional states of Amhara (north) and Tigray (south). The Tekeze basin has a length of 610 km within Ethiopia but data regarding the Sudanese portion of the basin is not available. The basin is a major contributor to river Atbara in Sudan. The Abbay basin begins at Lake Tana (Ethiopia) and traverses through gorges and valleys crisscrossing Amhara, Oromiya and Benishangul-Gumuz regional states. The Abbay has the largest catchment and in Ethiopia covers 33.2% of the area of the country, which is 11.7% from the total drainage area of the Nile basin (NWRC, 2003). The total length of Abbay before entering Sudan is about 1000 km and is joined by Atbara basin at Atbara town in Sudan. The three river basins together form the northwest water corridor for Ethiopia, draining south and southwest of the country before flowing into Sudan and forming the Nile River.

The Nile drains a vast area of North East Africa (an area equal to a tenth of the whole of Africa). The two main rivers that feed the Nile are the Blue Nile (which begins at Lake Tana, in Ethiopia) and the White Nile (with Baro-Akobo sub basin in Ethiopia being a tributary). These two rivers join at Khartoum, the capital of Sudan, before flowing to Egypt. The Nile is the only reliable but finite source of water for millions of people in this sub region of Africa where population growth is very huge and the attendant growth in water demand is already creating water scarcity and it is feared might eventually lead

to water stress. Many people fear that shortages in this vital resource could lead to "Water Wars".

Box 1: Basic hydrological data on the three river basins

<i>Basin name</i>	<i>Location</i>	<i>Average Temp</i>		<i>Average Rainfall</i>	<i>Average Evap. (mm)</i>	<i>Surface runoff (BM₃)</i>
		<i>Max</i>	<i>Min</i>			
<i>Abbay (Blue Nile)</i>	<i>7045'N-12045'N 34005' E-39005'E</i>	<i>11.4</i>	<i>25.5</i>	<i>1420</i>	<i>1300</i>	<i>54.4</i>
<i>Tekeze</i>	<i>11040'N-15012'N 36030' E-39050'E</i>	<i><10</i>	<i>>22</i>	<i>1300</i>	<i>1400</i>	<i>8.2</i>
<i>Baro-Akobo</i>	<i>5031'N-10054'N 3300' E-36017' E</i>	<i><17</i>	<i>>28</i>	<i>1419</i>	<i>1800</i>	<i>23.23</i>

Source: National Water Development Report for Ethiopia, December 2004.

In the paragraphs that follow **Encyclopedia Britannica** provides a description of the hydrology of the three basins.

The White Nile provides a regular supply of water throughout the year. During April and May, when the main stream is at its lowest level, more than 80 percent of its water comes from the White Nile. The White Nile obtains its water equally from the rainfall on the East African Plateau of the previous summer and the drainage of southwestern Ethiopia through the Sobat (the Baro and the Pibor) that enters the main stream below As-Sudd. The annual flood of the Sobat, due to Ethiopian summer rains, is responsible for variations in the level of the White Nile. Rains swell its upper valley beginning in April causing inundation over the 200 miles of plains through which the river passes, delaying the arrival of the rainwater in its lower reaches until November-December.

The Blue Nile plays an overwhelming part in bringing the Nile flood to Egypt. It receives two tributaries in Sudan--the Ar-Rahad and the Ad-Dindar--both of which also originate in Ethiopia. The regime of the Blue Nile is more rapid in the passage of its floodwater into the main stream. The river level begins to rise in June, reaching a maximum level at Khartoum in about the first week in September. The Atbara River draws its floodwater from the rains on the northern part of the Ethiopian Plateau, as does the Blue Nile. But while the floods of the two streams occur at the same time, the Blue Nile remains perennial, while the Atbara, shrinks to a series of pools in the dry season. The rise of the Blue Nile causes the first floodwaters to reach central Sudan in May with the maximum occurring in August, after which the level falls again. The rise at Khartoum averages more than 20 feet. When the Blue Nile is in flood it holds back the White Nile water, turning it into an extensive lake and delaying its flow

The peak of the flood does not enter Lake Nasser until late July or August, when the average daily inflow from the Nile rises to some 25.1 billion cubic feet. Out of this amount the Blue Nile accounts for almost 70 percent, the Atbara more than 20 percent

and the White Nile 10 percent. In early May the inflow drops to its minimum; the total discharge of 1.6 billion cubic feet per day comes mainly from the White Nile and the remainder from the Blue Nile.

On the average, about 85 percent of the water in Lake Nasser comes from the Ethiopian Plateau, and the rest is contributed by the East African Lake Plateau system. Lake Nasser has an enormous storage capacity--more than 40 cubic miles (about 168 cubic kilometers)--although the content of the reservoir varies with the extent of the annual flood upstream. Because it is situated in a very hot and dry region, however, Lake Nasser can lose up to 10 percent of its volume to evaporation annually when it is full, decreasing to about one-third that amount when it is at minimum capacity.

Regulatory regimes/institutions

The policy/legislative aspects of water resources deal with rules and institutions governing the development, conservation and utilization of water resources in and around the subs basins. From the separate reports provided by each of the three national consultants, it is possible to discern two major types of regulatory regimes on water resources. These are: **indigenous/informal** and **legal/formal regulatory** regimes. The status of each of these two regimes in the three sub basin countries merits some attention. First, let us consider the status of legal institutions governing water resources.

Literature search during the synthesis of this report has pointed to recent legislative initiatives mainly in Ethiopia on national water policy and the environment. The two most important recent legislative developments are the national water policy (1999) which outlines some key issues underlying the water sector and fishery development and utilization proclamation (2003).

The Egyptian portion of the report on the Main Nile provides information on the existence of national water policy plan (2005), Law 12/1982 on irrigation and drainage, and Law 4/2004 on the environment. The Ministry of Water Resources and Irrigation is the sole government agency responsible for planning and managing all in land water resources in Egypt. A nation-wide inventory of all stakeholders in water and water quality – **Stakeholders Inventory in the Water Quality Sector** – is also available. Egypt has been able to put in place laws and institutions governing the use of the Nile waters more effectively (e.g. in terms of establishing administrative and managerial capacity for data collection) than the other two Eastern Nile basin countries and the necessary legislative and institutional infrastructures needed for the effective management, development and use of the Nile waters are relatively well developed there compared to either in Ethiopia or the Sudan.

At regional level, the three Eastern Nile countries are members of an initiative - the Nile Basin Initiative – which was established in 1999 for the purpose of developing and managing the Nile water resources in a cooperative manner and for collectively sharing

substantial socio-economic benefits¹. Some of these initiatives date back to colonial treaties (Box 2). Recently, the Nile Basin Development Forum (NBDF) has been established, bringing together water and irrigation ministers, professionals, academics and scientists from the member states to discuss and debate issues of common concern and cooperation dealing with the Nile water resources. Currently, the NBI is working towards the establishment of a permanent river basin organization, with strong institutional and legal framework to manage all issues dealing with the shared Nile water resources.

Box 2: Some historical facts regarding the Nile Waters

National and international interest in the Nile waters has led to a number of bilateral treaties between the riparian countries, some of which are dating back to the colonial period with European countries (such as Britain and Italy in 1889; Congo and Britain in 1894; Britain and Ethiopia in 1902; Britain, Italy and Ethiopia in 1902) making treaties on behalf of their subject colonies.

The management and development of the four basins is also affected by indigenous or informal institutions that are developed and used by groups and communities inhabiting each of the four basins. Informal institutions refer to rules, norms, constraints and customary laws which have been developed by local groups in order to regulate water resources held in common or private property (e.g. pastures, fisheries). In absence of the effective working of formal institutions, indigenous rules give local people a framework for action² (Box 3).

Box 3: Incorporating Local Knowledge as part of Management of Nile Waters

Local people should not only be provided with the necessary information regarding management of the resources, but should also be recognized as an essential source of knowledge of the ecosystem, land use and economic practices and cultures of the basin (Mr. Katuku, Kenya's Water & Irrigation Minister, 2006)

In the Ethiopian report, focusing on the three sub basins, reference is made to indigenous land tenure rights that play a role in the management of natural resources. For example, in the pastoral areas most land and water resources are managed and used collectively by kinship groups. There is a need to involve the basin-based communities in the planning and management of the three basins, as their livelihoods are largely dependent on water and related resources.

¹Other members include Burundi, Democratic Republic of Congo, Kenya, Rwanda, Sudan, Tanzania, Uganda and Eritrea as an observer.

² In this regard, the three country-level consultancy reports contain only general statements of the existence of such institutions, albeit under different names.

Basic Demographic Profile

According to projections based on previous population census, an estimated 152,000,000 people inhabit the four sub-basins: Abbay-Blue Nile, Main Nile, Baro-Akobo-Sobat-White Nile, and Tekeze-Setit-Atbara (Table 1). The first two sub-basins account for the highest population concentration (78%), followed by the third (13%), and the fourth (9%). The Abbay-Blue Nile and Main Nile sub-basins are the most heavily populated, accounting for 79 % of the population of the Eastern Nile countries. The Abbay-Blue Nile, being the principal tributary of the Main Nile, drains the largest catchment area in relation to the other two sub-basins, as well as offering a more suitable environment for human habitation. This sub-basin is also endowed with temperate, humid and semi-humid climate conducive for crop production and animal husbandry.

Available data indicate that population growth rate is the highest in the Ethiopian side of the sub-basins: Abbay (3%), Tekeze (2.9%), and Baro-Akobo (3%). With the introduction of the Ethiopian national population policy in 1993, designed to reduce fertility and increase contraceptive prevalence rate, projections are that the overall growth rates for the country will drop significantly by 2015. Growth rates continue to decline moderately in the Sudanese side of the sub-basins, i.e. 2.7% in Blue Nile and 2.5% in Tekeze-Setit-Atbara, dropping dramatically to 1.8% in the Egyptian section of the sub-basin (Main Nile).

Population density is modest in the Abbay section of the sub-basin, the highlands manifesting higher population-land ratio than the lowlands, which tend to be malaria-infested. Further down, population density continues to increase, reaching the highest level in the Main Nile, 1,500 persons per square kilometer. In fact, the Nile Valley accounts for one of the highest densities in the world. Population density for Tekeze-Setit-Atbara is 59 persons per square kilometer, while it is highly diversified in Baro-Akobo, varying widely between 3 and 127 persons per square kilometer.

The data on sex ratio in Abbay-Blue and Nile-Main Nile basins reveals that males slightly outnumber females, 102 to 100. The same holds true for Tekeze-Setit-Atbara, roughly 103 to 100, while the ratio for Baro-Akobo indicates a slight reverse in figures, 98 males for every 100 females. Sex differentials in mortality and migration in and out of an area may explain the variations observed in sex ratio by sub-basin. Trends of dependency ratio in the four sub-basins indicate that vast proportions of the population are young under the age of 30. On the other hand, old age dependency represents a smaller percentage of the populations in the sub-basins, ranging from 3% down.

Table 1: Key Demographic and population characteristics of the four basins

Estimated population for the basins				
Demographic variables	Main Nile	Abbay-Blue Nile	Tekeze-Atbara	Baro-Akobo-Sobat-White Nile
Total Population (million)	76.1	44.3	16.5	15.1
Sex ratio	102:100	100:100	103:100	98:100
Child dependency ratio	N/A	85:100	N/A	N/A
Old age dependency (per 100)	3:100	7	N/A	N/A
Population density (/sq. km)	1500	7.3-127.4	59	3-127
Urban population (%)	60	10	N/A	9.4
Infant mortality (per 1000)	40	100	N/A	N/A
Life expectancy, male	71	47.5-52.4	N/A	46-55
Life expectancy, female		48.5-53.4	N/A	
Annual growth rate	2.4	2.7-3.5	2.5-2.9	3.0

Average life expectancy, an indicator of quality of life, varies from country to country and also by gender, with females enjoying relatively slightly higher survival rate. In the Abbay-Blue sub-basin, for example, it ranges from 47.5 for males and 48.5 for females, to 52.4 for males 53.4 for females. However, life expectancy is exceptionally high in the Main Nile with 71 years on average for males and females. Another indicator of low quality of life in the sub-basins on the whole is the data on infant and child mortality rates. Regardless of slight variations between sub-basins and regions within a sub-basin, infant and under 5 mortality rates per 1,000 live births are slightly over 100 and 150 respectively. An exceptional case is Main Nile with infant mortality rate of 40 per 1,000 live births in 2000.

Rural-urban distribution of the population in the four basins generally follows a similar pattern. Thus, a large percentage of the population (excepting the Main Nile) lives in rural areas where access to basic infrastructure and social services is limited. However, the rural-urban dichotomy gets narrower as one goes down the sub-basins, places of residence being more and more urbanized. Accordingly, the percentages of urban population range from 10% in the Abbay section of the sub-basin, to 35% in Blue Nile, and a peak of more than 60% in the Main Nile. Massive rural-urban migration, attributable to economic push factors and political instability in the region, may explain the increase in the size of urban population in the Blue Nile area. The trends are similar in the other sub-basins, with ten and twelve percent of the population in Tekeze and Baro-Akobo section of the sub-basins being urban residents, the figure rising to 34 percent in Tekeze-Setit-Atbara.

The greatest portions of the river basins are characterized by high ethno-linguistic and cultural diversity, except for the Main Nile, which stands out as a markedly homogeneous region in these respects (Table 2). The Abbay area of the sub-basin is the home of five major ethno-linguistic groups: Amhara, Oromo, Jebalawi, Gumuz, and Agew. The northern and southern zones of Blue Nile are even more highly diversified, in fact, the most heterogeneous of all the regions in the three sub-basins, being inhabited by as many as eighteen ethnic and linguistic groups. In the Main Nile, 97% of the population is culturally and linguistically homogeneous, speaking modern Arabic. Minority groups represent only three percent, which are Armenians, Geeks, Berbers, Nubians, and the

Arabic speaking Bedouins. The Tekeze-Setit-Atbara sub-basin is the second most diversified, comprising of fourteen groups both on the Ethiopian and Sudanese sides. The Baro-Akobo sub-basin area hosts the ethno-linguistic groups of Oromo (Oromia Regional State), Jebalawi and Gumuz (Benishangul Gumuz Regional State), Anuwak and Nuer (Gambella Regional State), Keffa and Bench (Southern Nations, Nationalities, and Peoples Regional State).

Table 2: Ethno-linguistic diversity in the four basins

Abbay-Blue Nile	Baro-Akobo-Sobat-White Nile	Tekeze-Atbara	Main Nile
Amhara, Oromo, Jebalawi, Gumuz, Agew, Ingassana, Berta, Watawit, Jaalyin, Danagala, Gumuz, Hamaj, Funj, Dwalla, Rufaa El Hoi, Om Bararo, Danagla, Jalfawien, Bidirya, Manasir, Mahas, Shaiygia, and nomadic Arabs	Oromo, Jebalawi Gumuz, Anuwak Nuer, Keffa and Bench	Tigre, Amhara, Al Gaalyin, Al Rubatab, Al Merafab, Al Omerab, Al Fdiniyaand, Al Manasir, Beja, Hadandwa, Bani Amir, Nubian, Shukrya, Habanya	Predominantly Arabs and some minorities such as Armenians, Geeks, Berbers, Nubians, and the Arabic speaking Bedouins

Islam is the most dominant religion in the Abbay-Blue Nile and Main Nile basins, claiming a number of followers that exceeds 80,000,000, accounting for 64% of the total population in the two basins. The Abbay area is predominantly inhabited by Orthodox Christians, besides relatively small numbers of followers of Islam, Protestant Church and traditional beliefs. While the Blue Nile section is dominated by adherents of traditional beliefs, followed by Christians, certain numbers of Muslims are also known to exist. Besides, a minority of Copts whose numbers vary substantially, depending upon reference sources, between three and seven million also inhabit the Main Nile. The Tekeze area of the Tekeze-Setit-Atbara sub-basin is predominantly Orthodox Christian, residing in the Tigray and Amhara highlands of Ethiopia, with few exceptions of the followers of Islam and Catholicism. The Tekeze-Atbara side of the sub-basin is, however, predominantly Muslim. The majority of the people living in the Baro-Akobo river basin are Ethiopian Orthodox Christians, while a great number of the followers of the Islamic faith and Protestant Church, as well as those of traditional beliefs co-exist in the wider region of the river basin.

Livelihood Systems and Employment Characteristics

In spite of variations in the size of labor force, and the contributions of the sector to GDP, agriculture is still a major employer in most of the four basins, with the exception of the Main Nile where the share of agriculture in the labor force has been steadily declining

since the 1970s. Except for the Gezira cotton farm in the Blue Nile river basin and New Halfa irrigated scheme in the Atbara-Setit, as well as the cotton and sesame plantations in the Tekeze-Setit side in Ethiopia, the largest proportion of agricultural production in the wider area of the sub-basins is geared towards satisfying consumption needs. Thus, 78% of the rural population in the Abbay portion of the sub-basin is engaged in subsistence agriculture and agriculture-related occupations, while only a small fraction engage in non-agricultural activities.

Sedentary mixed farming and shifting cultivation (slash and burn) constitute the two important types of traditional agriculture practiced in the Abbay-Blue Nile region of the sub-basin. Furthermore, pastoralism also forms a means of livelihood for some of the population in the region, with variations in the size of groups practicing it, the Blue Nile accounting for the greater number of pastoralists. In the same area, artisan gold mining also employs a small labor force, entirely comprising members of the Berta ethnic group, albeit in small numbers. Further down the Abbay-Blue Nile and Main Nile sub-basins, however, not only does agriculture become more commercial and export oriented, but the contributions of the non-agricultural sectors of the economy also increase.

The small area of cultivable land available in Egypt is highly fertile, located along the Nile and in the Nile Delta, which area accounts for 3.5% of the total land area of the country, and is home to close to 99% of the entire population. Besides providing for the overall food needs of the people, agriculture supplies the domestic industry with the necessary raw materials. As well as employing a sizable workforce (34%), the sector, fishing included, contributes 20% of both GDP and total export. The share of the industrial sector, including manufacturing, mining and construction in the GDP is, however, estimated at 34%. The service sector, tourism and petroleum production also play an important role in Egypt's economy, claiming large shares of the job market in that order, and making livelihood systems and employment characteristics the most highly diversified in the sub-basins.

The picture of livelihood structure for the rest of the sub-basins is markedly similar, subsistence agriculture supplemented by livestock production, continuing to be largely predominant. In the lower regions of the Tekeze-Setit-Atbara and Baro-Akobo-Sobat sub-basins, though, the size of the pastoral population steadily increases, accounting for 3.9% of the total in Tekeze-Atbara. Still, the non-farm sector is important in these basins, providing a means of livelihood for a sizable labor force, mostly as a coping mechanism and supplementary economic activity to agriculture. Major non-farm activities include wage labor, cottage and small-scale industry, petty trade, making and selling of forest product (firewood and charcoal).

Unemployment rate is reported to be 6.3% in the Abbay basin, although the problem is known to be pronounced more in urban than in rural areas. Although a conclusive figure on the rate of unemployment for the Blue Nile basin does not exist, the crude labor force participation rate is estimated at 27.3%. Nonetheless, urban unemployment rates in both basins is reportedly high, explained in terms of the less absorbing capacity of the urban labor market and high rural-urban migration. The rate of unemployment rises abruptly in

the Main Nile basin, reaching 12% according to a figure released in 1996, which is highly disputed by other sources that put it at 20-25 %. High population and low economic growth rate, as well as low absorbing capacity of the industrial sector and capital-intensive technology in the new industrial enterprises are cited as the factors which explain the soaring unemployment figures in the Main Nile. The figures on the rates of unemployment for Tekeze-Atbara and Baro-Akobo basins are 6.9 and 7.3 percent respectively. Corresponding figures could not be found for Atbara-Setit and Akobo-Sobat basins. But the crude labor force participation rate for Atbara-Setit is indicated as 26.4.

Underemployment, also referred to as disguised unemployment, is a widespread problem in the sub-basins. It accounts for up to two-fifth of the population in the entire sub-basin region, except Main Nile. In these areas, underemployment is characteristically a **rural** rather than an urban phenomenon. Owing to overpopulation, land fragmentation, and traditional farming technology, a large proportion of the economically active population, who are willing and able to stay additional hours at work, are nevertheless not fully engaged. The phenomenon is still rampant in the Main Nile basin, although it is dominantly **urban** by nature, because of its manifestation in government bureaucracy, which sector is largely overstuffed and under-remunerated.

Level of access to infrastructure

The state of infrastructure in a given area is a good indicator of the level of development of a region or country. Overall, the level of physical and social infrastructure development (including **roads, railroads, sanitation, water supply, health, education**) in the four basins, save the Main Nile on Egyptian side, is very low. Of the three Eastern Nile countries, Egypt provides its population with better access to roads, water supply, sanitation, health, education, and soon on. In the upper and middle sections of the three basins (that is, in Ethiopia and partly also in Sudan) most of the population residing along the basins has to travel long distances on foot before accessing the nearest all-weather road; railroad connection is non-existent (e.g. Abbay, Tekeze-Setit and Baro-Akobo basins), the population has limited access to safe drinking water (for example, not more than 30 % of the Ethiopian population has access to safe drinking water) and the sanitation infrastructure (such as toilet facilities, household and human waste disposal, sewage) is considered the least developed.

The underdevelopment of infrastructure is especially evident in the case of the Baro-Akobo-Sobat-White Nile sub basin (both on the Ethiopian and Sudanese portions) where there is limited or no connectivity by all-weather road or any other means of transportation with regional centers. **Railway** line along the basin is non-existent, and the basin is also the least developed in terms of its use for hydropower generation and irrigation activities. The Tekeze-Atbara basin, on the other hand, is better supplied with infrastructure especially on the Sudan side where there is a railway line connecting Atbara town to its neighboring areas. There are **all-weather** roads linking parts of northern Amhara and southern Tigray regions via the Gondar-Shire and Gondar-Humera gravel roads. The transportation of sesame and cotton (two most important commercial crops produced along the Tekeze basin) is made possible using these road networks. An

all-weather gravel road is connecting parts of northwestern Ethiopia with that of southeastern Sudan allowing movement of goods (fuel and agricultural products) and people between the two countries.

Similarly, the Abbay-Blue Nile and Main Nile basins have better access to infrastructure mainly **road and railway** connections (the latter is available in Sudan and Egypt). The Main Nile population in Egypt has good access to all-weather roads estimated 64,000 km in 1996 (out of which 50,000 km were paved) and the Nile valley where 99 % of the Egyptians live is boosted by a highway system running north of Aswan and crossing through the Delta. There is also railway line extending more than 4800 km of track serving the most populated areas of the Nile valley and the coastal areas. In Ethiopia, the only railway line is the Ethio-Djibouti route connecting the capital Addis Ababa and the eastern towns to its seaport provider, neighboring Djibouti.

Level of access to **safe drinking water supply** is another dimension of infrastructure. The basins' population is characterized by differential level of access to potable drinking water and generally **water supply coverage increases as one moves from south to north of each of the three basins**. That is to say, the Ethiopian side of the three basins (especially rural areas) is the least covered by potable water networks compared to, for example, the Egyptian portion of the main Nile.

According to Ethiopia's National Water Development Report (2004) only 30.9 % of the households have access to safe drinking water and the figure for rural areas is only 17 % and this is compared unfavorably to Egypt where 43 % of the rural villages have access portable water supply. Basin-by-basin comparison of safe water supply in Ethiopia indicates that the Baro-Akobo basin states (except Oromia) have portable water coverage that is lower than the national average – 17.6 % for Gambella; 20.3 % for Benishangul Gumuz and 28.6 % for SNNPR. Relatively higher potable water coverage is reported for the two regional states (excluding Benishangul Gumuz) sharing the Abbay basin – namely Oromia (31.2 %) and Amhara (30.7 %). The Tigray regional state, sharing Tekeze basin along with Amhara, enjoys better safe water coverage (34.1 %) compared to other regional states, excluding the two city-states of Addis Ababa and Dire Dawa.

The **sanitation infrastructure** in Ethiopia (where Baro-Akobo, Abbay-Blue Nile and Tekeze-Setit-Atbara basins are found) is on a very low scale: the poorest compared to many East African countries. According to the World Development Report of 1996 only 10% of the Ethiopian population had access to proper sanitation, compared to 30%, 60% and 77% in Kenya, Uganda and Tanzania respectively. The 1998 Welfare Monitoring Survey revealed that 83.3 % of the housing units in Ethiopia have no toilet facilities and people commonly use open defecation. While in Egypt 98 % of the population has access to improved drinking water sources and 68 % of the population uses adequate sanitation facilities. Lack of sanitation and safe sewage disposal facilities is a contributing factor to water and environmental pollution. Consequently, the upper courses of the three basins may be subjected to pollution resulting from unsafe disposal of human and animal wastes.

Level of access to education is another important indicator of the state of infrastructure in the three sub basins. In this regard, the population on the Egyptian portion of the Main

Nile enjoys an improved access to education where as far back as the mid 1980s about 84 % of the primary school age population in Egypt was enrolled in primary school and 30 % of the eligible youth was in secondary education at the time. Egypt has Law Number 139 of 1981 that made the nine-year basic education cycle compulsory. During the same period Egyptian females constituted 45 % of all primary school age children.

The population on the Sudan side of the Tekeze-Atbara and Abbay-Blue Nile basins has also relatively better access to education compared to the population on the Ethiopian side of the two basins. In three states sharing Tekeze-Atbara basins – namely, Nahr Elnil, Kasala and Gadarif – average enrolment ratio in basic education in 2002-2003 was 77.8 %. The five Blue Nile states (Northern, Khartoum, Elgezira, Sinnar, Blue Nile and White Nile) had average enrolment ratio of 75.9 % in basic education. In Ethiopia, on the other hand, access to education services is very limited. Taking net enrolment rate as an indicator, in 2004 the three Baro-Akobo basin states of Benishangul-Gumuz, Oromiya and SNNPR had respectively primary education enrolment rates of 43.6 %, 40.2 % and 37.5 % for males; and 31.7 %, 33.2 % and 29.2 % for females. During the same year, the Amhara region as one of the three Abbay-Blue Nile basin states (together with Benishangul-Gumuz and Oromiya) had primary level school net enrolment ratio of 34.7 % for males and 39.3 for females while the Tigray regional state (home of the Tekeze-Setit basin along with Amhara regional state) had net enrolment ratio of 43.1 % for males and 50.6 % for females. Overall, school enrolment ratio at secondary level is very low, under 15%.

Regarding the **health service infrastructure**, the population on the Ethiopian side of the three basins is the least served by health services compared to the population in Sudan or still better the population in Egypt. For example, average life expectancy in Ethiopia is below 50 years. Egypt was in similar health standing half a century ago, with average life expectancy now jumping to 71 years. Taking the number of health personnel into account, in Ethiopia the number of population per physician is 29,777 and this is far below the standard recommendation set by the WHO, which is 10,000 persons per physician. The situation of the basins' population is much below the national average – 43,536 for Benishangul-Gumuz, 138,802 for Oromiya and 142,184 for Amhara. The Blue Nile population in Sudan has better access to health services as seen in terms of number of health personnel (doctors/100,000 population is 17.6; 3.9 specialists; 1.0 dentists; 11.8 technicians; 30.1 medical assistants, and 77.7 nurses) while the Tekeze-Atbara basin population in Sudan is found at a relative disadvantage (doctors/100,000 is 8.6; 1.7 specialists; 0.5 dentists; 6.0 technicians; 24.6 medical assistants, and 62.7 nurses).

All in all, the state of infrastructure in the four basins is characterized by greater disparities ranging from a very low level of development (in Ethiopia) to moderately developed (in Sudan) and then to a developed scale (in Egypt), somewhat comparable to developed countries. Differences in level of socio-economic development and rugged topography in the highlands as well as disease infestation (e.g. mosquito) in the lowlands are some of the problems affecting the development of infrastructure in the upper and middle courses of the three basins. The three Eastern Nile countries (Ethiopia, Sudan and Egypt) need to work together (under the cooperative framework of the NBI) to make use

of the water resources for achieving mutual socio-economic benefits for the countries. One such area of cooperation is to develop inter-country infrastructure networks (e.g. cross-country roads) creating linkages between the countries and between regions within countries. As indicated above, an example of such cooperation is found between Ethiopia and Sudan through the opening and strengthening of the Gondar-Metema-Sudan highway that is being currently used to transport commodities (e.g. fuel from Sudan to Ethiopia and agricultural commodities from Ethiopia to Sudan) between the two countries.

Development Projects in the Sub-Basins

On the whole, limited development interventions have been carried out in the sub-basins, in proportion to the vast development potentials of the existing water resources. This, of course, is with the exception of the Main Nile where the potentials of the basin have been relatively highly utilized by Egypt.

Agricultural extension programs constitute part of the development interventions implemented in the upper portion of the Abbay-Blue Nile. It was the development policy of the military regime, and has been even more so of the current government in Ethiopia, to enhance agricultural production and productivity by laying heavy emphasis on the provision of green revolution inputs and related education and training to farm households. Thus, the agricultural extension program is at the center of the incumbent government's agricultural development led industrialization policy (ADLI). However, studies (for example, UN Environment Program (1995)) indicate that the application of productive inputs mainly chemical fertilizers, pesticides, and hybrid seeds has had adverse effects on the natural environment, by contributing to soil degradation and loss of plant diversity.

Nevertheless, the biggest impact on the livelihood of the farming population and the environment in the Abbay Basin (Ethiopia) resulted from the **massive resettlement programs** executed by the military government in particular, and the present regime as well, although not on the same scale. Resettlement programs existed under the imperial rule, but were sporadic and small-scale nonetheless. The Marxist military regime that came in its wake revived the programs in earnest, but never as extensively as it did following the 1984/85 drought and famine, the severest to have hit parts of the country yet. The Ethiopian resettlement programs as officially claimed had the goal of preventing famine and ensuring food security, thereby overcoming recurrent food crisis. Accordingly, tens of thousands of farm households from the overpopulated, environmentally degraded and drought affected areas of Wello, Tigray, and North Shoa were relocated in stages to Illubabur, Wellega, and mainly Metekel, all in the Abbay Basin. Being the largest of the host communities and predominantly inhabited by the Gumuz shifting cultivators, the Metekel Zone was a destination for the 82,000 of the 600,000 people resettled in the resettlement scheme known as the Pawe Resettlement Program (Gebre, 2004). The Gumuz population was estimated at 72,000 at the time, and 250,000 hectares of land was designated for the resettlement program, of which 73,000 hectares of land were cleared for cultivation and the establishment of resettlers' villages.

A parallel intervention in Ethiopia was the large-scale agro-industrial and infrastructural development program known as the Tana-Beles Project. This was a giant multi-sectoral development program sponsored by the Italian government, which encompassed production and infrastructure components, with a prime focus on the promotion of mechanized agriculture, forestation, livestock and fishery, agro-industry, water supplies, roads, bridges, airport, and education and health. Regardless of its intentions and stated objectives, the Tana-Beles Project proved to be highly ambitious, which made it more likely to fail than succeed. As analysts (Gebre, 2004; Wolde-Sellassie, 2004) put it later, lack of proper planning, responsible management, as well as failure to consult the resettlers and host communities alike predetermined that the exercise would only be short-lived. The collapse of the program in the wake of the withdrawal by the Italians meant that the necessary conditions to ensure sustainability were not met. The practice of collective farming, further complicated by the predominantly backward agrarian structure, produced the wrong environment for the introduction and expansion of mechanized farming. The end result was that the project terminated prematurely, even before the settlers were able to reestablish themselves.

The Gumuz, who were the host population, were probably the ones who had to bear the brunt of the impact caused by the failed project. Neither did the Ethiopian Government nor the Italian Cooperation Project take into consideration the concerns and interests of the indigenous population. Having lost their farmlands, hunting-gathering grounds and fishing sites, the locals no doubt suffered severe consequences on their lives and livelihoods as a result of the program. Besides extreme shocks to their livelihood base, with resulting food insecurity, dispossession of land and access to other critical resources triggered off local resistance, bringing the host community into bloody conflict with the settlers. It is reported (Gebre, 2004) that nine clashes of such scale took place between 1985/86 and 1993/94, claiming many lives as well as property on both sides of the conflict. The resettlement program also had a heavy toll on the environment, as it was carried out with little consideration for the sustainability of the natural habitat. Massive deforestation was a single most important characteristic of the resettlement process, with up to 50,000 hectares of land cleared for the establishment of 48 villages and 23,000 hectares of forest land leveled for mechanized agriculture (Viezzoli 1992:68 & Salini Costruttori, 1989:14 as quoted by Gebre, 2004). The loss of forestry resource was further accelerated by the absolute dependence of the settlers on firewood as the source of energy, and the intensification of logging and carpentry in the area as concomitants of the resettlement program. Rain and wind erosion also resulted from the substantial loss of the vegetation cover, causing the already fragile sub-tropical soil in the area to become even more vulnerable to natural forces.

The resettlement program has also been pursued by the current government since 2003, with an aim to ensure national food security, as a component of the country's Sustainable Development and Poverty Reduction Program. As a departure from the implementation strategy adopted during the military rule, the **resettlement program** has now taken on **intra-regional** nature, relocating settlers within their respective ethno-linguistic boundaries. The justification is to prevent the kinds of armed clashes between the settlers and host population, which problems accompanied the resettlement practices of the

1980s. Accordingly, a target was set to resettle as many as 440,000 people over a three-year period, in resettlement sites located mostly in the Abbay Basin. While critics and the donor community are widely skeptical of the intentions and feasibility also of the current resettlement program, its overall impacts on the environment, settlers and the host population has, nevertheless, yet to be investigated.

In Ethiopia, the Gibe hydro-power project is another development program underway in the Abbay basin, with a huge impact on the local population. Displacement of farming and herding populations, denial of access to grazing land and the resultant food shortages are among the hardships suffered by the local people. The Tiss Abbay II hydro electric power plant is yet another project located on the Abbay River, some 32 km downstream of Lake Tana at a site where the riverbed suddenly drops by approximately 45 meters thus creating the well-known Tiss Issat Water Falls. The hydro-power project is reported to have similarly affected the scenic views of the falls, causing observers and local residents to express concerns about the possible impact on tourism potentials of the area.

The Blue Nile basin in the Sudan is a densely populated area, where the size of human and livestock population is surpassing the carrying capacity of the environment under existing farm and animal production technologies. One of the two major development projects in this area is the **Rosseris Dam**, where a hydro-power plant is located. Situated in Damazin town, now the capital of Blue Nile State, 500 kilometers southwest of Khartoum, the 280 mw hydro power plant at the dam supplies nearly half of the country's electric power output. In addition, the dam provides irrigation waters to the agricultural scheme of the Gezira Plain. Rosseris and Damazin are the only towns supplied with electricity in the Blue Nile State, leading to the expression of discontents and grievances by the population of the rest of the towns and villages there, who do not benefit from the project. The **Sinnar Dam**, built by the British commercial companies in 1925, is the oldest and largest development project in the Blue Nile Basin. The dam was constructed mainly to irrigate the Gezira agricultural scheme, for the production of cotton, among other crops, a major export item and foreign exchange earner of the country until recently. The Gezira scheme accounts for 12% of the total area of cultivated land in the country, and 75% of the domestic cotton production. In addition to cotton, the Gezira scheme also produces food crops for domestic consumption such as sorghum, wheat, and groundnuts.

The **Aswan High Dam** is a rock-fill dam, which constitutes a principal water development project operated in the Main Nile basin. It was constructed to meet the demand for high capacity storage, in order to control and preserve the overflow of water during the flood seasons, for use during low flood seasons. The construction of the dam lasted for a decade (1960 to 1970) and is 3,830 meters in length, 980 in width at the bottom, and 111 meters in height above the river bed. A hydro-eclectic power station, built at the outlets of the tunnels encompasses twelve generating units, each with a capacity of 175,000 KW. Its total generation capacity reaches 2.1 million KW, producing ten milliards KWH annually. The electric power generated here is transferred to Cairo and other major cities by means of high voltage transmission lines. The power generation has played an important role in the electrification of the country, and the expansion and

development of different sectors of the economy. It has also contributed significantly to economic development, by saving foreign exchange needed to generate an equal amount of energy from steam power stations. The Aswan Dam, which also forms the largest artificial lake in the world, has been of a tremendous importance to Egypt in successfully coping with droughts, which have resulted in widespread famine in many countries of Africa. Without the dam, it would have been difficult to survive the severe droughts ranging from 1979 to 1987, in which case the shortage of irrigation water would have caused the nation serious food crisis.

Despite its benefits, however, the construction of the Aswan High Dam has caused **serious social and environmental impacts**. 100,000 to 120,000 Nubians, 50,000 of them Egyptians and 70,000 Sudanese, had to be relocated to make way for the entire project, mainly the reservoir. The dam-induced displacement has resulted in a combination of physiological (exposure to different communicable diseases), psychological (undergoing stressful experiences, anxieties and uncertainties) and socio-cultural (denial of access to ritual sites and practices) shocks to the indigenous populations.

On the environmental side, the massive deposit of silt which the Nile flood water brought each year are now held behind the dam, contributing to the loss of fertility of the floodplains lying further down. As a result, the farmers are forced to apply thousands of tons of chemical fertilizers to replace the fertility of the flood-derived alluvial soils. The repercussion of the heavy dependence on commercial fertilizer has been chemical pollution of the environment, which was not the case with the traditional river silt. Besides, the release of silt-free water from the structure resulted in major downstream erosion, leading to the problem of waterlogging and increase in salinity. The Mediterranean fish stocks have also been negatively affected by the dam, as a result of the reductions in the flow of the river, and the sharp drop in the volume of nutrient such as phosphates and silicates, which it traditional brought along to the sea. Due to the resultant shock to the marine ecosystem, the fish production there has declined dramatically because of the High Dam. Moreover, the Aswan High Dam has been implicated in the rise of schistosomiasis (bilharzia). The thick plant life that has grown in Lake Nasser is blamed to have provided favorable breeding grounds for the snails which carry the disease. As a result, the prevalence of urinary and intestinal bilharzia is believed to be on the rise in the neighborhoods of reservoir.

The Tekeze basin in Ethiopia has witnessed little by way of water development interventions, apart from the Tekeze hydro-electric power generating scheme still under construction. The 1959 Nile Water Agreement permitted the Sudanese Government to utilize additional waters of the Nile Basin. Thus, a decision was taken to develop agricultural lands in the Atbara-Setit basin using the waters of the Atbara River, a tributary of the Nile. The scheme was intended to relocate the Nubians affected by the construction of the Aswan Dam, and sedentarize the indigenous migratory pastoral groups of Shukrya and Hadandawa to become resident farmers. Accordingly, the Khashm El Girba scheme was established in a large plain area of the Atbara-Setit basin in 1964. It is situated on the western side of Atbara River, north of the village of Khash el Girba,

after which the project was named until the Government renamed it as New Halfa. The Khashm El Girba Dam was constructed to control the torrential behavior of the Atbara River and serve the three-fold functions of providing irrigation water for New Halfa Agricultural Corporation, sugar farm, and other irrigation water users; the generation of limited hydroelectric power; and the supply of drinking water for New Halfa Town and nearby villages. Overall, the Khashm El Girba scheme has had difficulties achieving the stated objectives, causing disappointment both to the government and the local communities. Not only have the resettled people and sedentarized pastoralists been unable to rely on farming as a viable source of livelihood, but most of them have also shifted to other means of survival, or withdrawn from the localities entirely. Declining storage capacity of the dam due to the accumulation of silt, the infestation of farm fields with weeds, and the trespassing of animals into the boundaries of the scheme particularly during the dry season have all complicated its operations, reducing the prospect of living up to the goals envisaged.

Implications for JMP Project Intervention

From the foregoing discussion it has become clear that the three sub basin countries are characterized by diversity across a wide range of issues of socio-economic nature, including but not limited to, nature of regulatory regimes, population characteristics, livelihood systems, level of infrastructure and experience in the utilization of the waters resources for development. Appreciating this local and regional diversity and creating a level-playing field for the joint utilization of water resources of the Eastern Nile is absolutely vital for planning and implementation of future JMP project interventions aimed at maximizing benefits for the three basin countries.

This summary synthesis has highlighted some critical areas of concern that need to be considered during the design and implementation of JMP project interventions. These include ethno-linguistic diversity of the sub basins population, livelihood systems, poverty situation, vulnerability indicators, issues of access to land and water resources, state of indigenous knowledge and local institutions. The possible implications of future JMP project interventions for each of these issues are briefly discussed below.

The four sub basins are inhabited by an extremely heterogeneous population resulting from diversity of religious, cultural, ethnic and to some extent racial backgrounds. JMP intervention should be sensitive to the needs of the different groups who live in and around the four sub basins. Especially worthy stressing here is the special needs of marginal groups who might experience restricted rights of access to water resources as a result of the introduction of JMP projects. Historically, large scale projects, as the JMP would be, tended to disadvantage indigenous groups, and hence it is essential that JMP avoid repeating past mistakes committed in the name of development intervention.

In addition, this socio-economic synthesis has shown that more than 150 million people depend directly or indirectly for their survival on the Nile water resources. These are farmers, agro-pastoralists, agricultural laborers, business people and many more who are engaged in livelihoods that are based in and around the four sub basins' water resources.

Some of these groups are likely to be affected directly by JMP project intervention and may face displacement (e.g. farmers) or disruption of their migration patterns (e.g. pastoralists). The consequences of displacement are also likely to be detrimental for certain groups (e.g. females, the aged, minorities) who because of their limited assets tend to occupy a vulnerable position in the community. The rights of indigenous people as well as settlers should be given due attention in the planning of future resettlement schemes designed to move population away from project sites. Some basin-based projects might expose the local population to flooding and destruction of livelihoods due to flooding. The recent case of the overflowing of the Awash River basin during the 2006 rainy season in Ethiopia and subsequent inundation of farmland and plantations lying along the basin is instructive for future basin-based interventions such as the JMP.

Adopting minimum tolerance policy towards livelihood disruption (including introducing effective mitigation measures to deal with issues of displacement from agricultural land, or restricted access to water and forest resources due to JMP projects) and fair treatment of those whose livelihoods are negatively impacted by the introduction of JMP projects is a prerequisite for attaining intended project results – fair and responsible sharing of benefits accruing from joint utilization of the Nile water resources.

Given the rampant nature of poverty among the sub basins population, there is an urgent need to design and implement water-based projects that can primarily address the poverty situation of the basins population, especially in the upper and middle sections of the Abbay-Blue Nile, Tekeze-Atbara and Baro-Akobo-Sobat-White Nile sub basins. This can be done, among other things, by creating alternative employment and income diversification opportunities in the form of off-farm and non-farm activities for the inhabitants. Utilization of the Nile water resources for the immediate improvement of current low-level of drinking water supply, sanitation, and hygiene situations of the basin population is vital. Individuals/groups who are likely to be adversely affected by JMP project interventions (e.g. fishing communities, collectors of natural wood products) need to be provided with support (in the form of, for example, training, monetary compensation) so that they can restart their lives elsewhere, including migration to towns. Tackling poverty at all levels (local, regional) in both rural and urban areas should be given top priority.

Drought and famine are common occurrences among the four sub basins' population. In this regard, future JMP project interventions should strive to reduce or eliminate the vulnerability of the population to the cyclically devastating nature of drought and famine. Smallholder-targeted irrigation schemes side-by-side with large-scale hydrological projects (e.g. dams) can reach and benefit wider population groups and reduce their vulnerability to drought and famine. Such projects should also have an environmental component designed to rehabilitate degraded landscapes in and around the sub basins by curbing massive clearing off vegetation cover since the continued utilization of water resources for development depends on the quality of the physical environment.

The sustainability of JMP project interventions depends on the participation and involvement of the four sub basins' population. This in turn requires incorporation of

local people's cultural and ecological knowledge in the design and implementation of river basin-based projects. In this regard, the basin population possesses good stock of indigenous institutions and organizations having knowledge and experience in the management of water resources. As has been stated *local people should not only be provided with the necessary information regarding management of the resources, but should also be recognized as an essential source of knowledge of the ecosystem, land use and economic practices and cultures of the basins*. Local people's ideas, belief systems and world views regarding the environment in general and water resources in particular should provide an important input in the design and implementation of JMP project interventions. Care should be given to project activities that are likely to affect people's historical, religious, burial and worshipping sites or disrupt their cultural, recreational and ceremonial activities.

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Chapter 1

Socio-Economic Features of the Abbay-Blue Nile Sub-Basin

1. Introduction

The Abbay-Blue Nile sub-basin accounts for the second largest population concentration of the four sub-basins of the Eastern Nile, after the Main Nile sub-basin (Figure 1). Accordingly, it is home to an estimated 44.3 million, 29.1% of the total population of the four sub-basins.

Located in Ethiopia, the Abbay Basin comprises the major parts of the Benishangul-Gumuz and Amhara Regional States and some portion of the Oromia Regional State. According to the last Population and Housing Census, carried out in Ethiopia in 1994, the Abbay Basin had an estimated population of 22.6 million, which was projected to reach 30.7 million in 2005. The Blue Nile Basin starts as soon as the Abbay River exits from Ethiopia through the southwestern Ethiopian Regional State of Benishangul-Gumuz bordering with the Blue Nile State of the Sudan, to extend all the way down to the Northern State of that country along the common border with Egypt. The estimated population of the Blue Nile Basin in 2004 was 13,627,000 with average annual growth rate of 2.7%. The Basin cuts across five states of the Sudan, and is characterized by a range of socio-economic and ecological variations. The Basin is divided as the southern and northern zones, on the basis of the wide diversity in the nature of the landscape between the scrub and tropical forest of the south and the desert north. The southern zone stretches from the Sudan-Ethiopian borders to Khartoum State, which land area also includes the states of Blue Nile, Sinnar, Geziera, and Khartoum. The northern zone extends from north of Khartoum State down to the Northern State, which borders with Egypt.



Figure 1: Map of Abbay-Blue Nile Sub-Basin

1.1 Socio-Economic Regulatory Institutional Setting

1.1.1 Customary and Statutory Laws

In the context of the Ethiopian socio-economic system that includes the Abbay Basin, customary rules and statutory laws have been the two major conflicting institutions over the form and nature of access and use rights to land and other natural resources. Thus, the ‘authority’ and ‘legitimacy’, as well as the role of these ‘formal’ and ‘informal’ institutions in regards to natural resource management have been issues of paramount importance in the Ethiopian tenure systems (Tarekegn, 2001). Many studies (Teferi, 1994, Yared, 1995, Hoben, 2001) have revealed that the existing mode of access to land, use and management of natural resources, in the Abbay Basin of Ethiopia has been characterized by inter-institutional conflict involving change, continuity, and contradiction in the tenure system. In other words, the socio-economic regulatory setting of the basin communities is defined by the dynamic interaction between the indigenous and formal legal tenure systems (Teferi, 1994; Aklilu and Tadesse, 2001). This institutional duality is thus important to understand the complex and dynamic nature of the land tenure systems in Ethiopia in general, and in the basin area in particular.

Available data indicate that the main property rights regimes maintained among the Abbay basin peasant communities are private possession of land (allocated use rights) and common property rights (Mirgassa, 1994; Yeraswork, 2001). However, *ownership rights on land and other natural resources remained in the hands of regional states that are entitled to govern access*. On the contrary, among the communities of Benishangul-Gumuz, communal ownership is the dominant form of property rights on land and other natural resources. All resources belong to ‘the collective within the clan boundary’ as the clan is believed to be the real owner of the land, whereas usufruct right is ‘accorded to the individual as member of the clan’ (Dessalegn, 1988). In this part of the Abbay basin, customary rules, rather than formal institutions, are the governing principles of access to and use rights on natural resources. In other words, the legal laws/formal institutions have had little or no influence on the indigenous land tenure systems as “no land distribution was carried out in these communities since there was neither landlord nor landless among the people” (Dessalegn, 1998). The multi disciplinary research findings in the Abbay basin area in general revealed that, in the context of Amhara and Oromia part of the basin, the formal institutions have failed to provide access to land for the landless, particularly to those newly formed households, as redistribution of land was legally terminated. To fill in such gap, the local communities have been increasingly adopting indigenous coping strategies to access land. Farming households used to enter into customary arrangements and get access to land mainly through mortgaging, sharecropping, contract and inheritance (Tefere, 1994; Yared, 1995; Dessalegn, 2003). It was also revealed that *the state ownership rights on land have induced a great deal of tenure insecurity* which, in turn, led to the mismanagement of natural resources and abuse of common property resources (Mirgassa, 1994; Hoben, 2001; Yeraswork, 2001; Dessalegn, 2003).

As in the case of the Gumuz in the Abbay Basin, customary rules rather than formal institutions play an important role in the management of access to and use rights on land in the southern zone of the Blue Nile Basin in the Sudan, among ethnic groups practicing traditional farming, shifting cultivation and pastoralism. In such situations, the tribe or the clan is considered the owner of the land although a member of the group is still entitled to use portions of it, albeit without formal registration. No claim is put up to a piece of land thus in use, but when abandoned, as is common in the case of shifting cultivators, any member of the group has a right to move in and utilize it.

This does not, however, mean that there were no instances where formal government land policies and laws have not interfered with customary rules, much like they have in the Abbay Basin area. According to El-Medani, (2006), in the early 1960s the Sudanese government leased out vast areas in this region for mechanized rain-fed agriculture. Almost all the land leases were made to merchants and businessmen from Khartoum and other part of Sudan, who invested on mechanized farming (El-Medani, 2006). The indigenous inhabitants of the region were not eligible because the regulations set by the government for the competition emphasized the financial capability and previous experience in mechanized farming. In the process, the interests of the indigenous population were not taken into serious considerations. Therefore, conflict was certain to ensue between the owners of these mechanized rain-fed agricultural schemes and the nomadic populations. Over time, grievances and discontentment built up to a point where people especially from the ethnic groups of the Ingassana, Gumuz and Berta joined the armed resistance spearheaded by the SPLM (The Southern Sudanese People Liberation Movement).

1.1.2 Institutions and Organizations

In Ethiopia, institutions which play a role in the Abbay Basin, with the potentials to contribute further to the development of the area include federal to grass root government administrative offices, academic and research establishments, religious organizations, ethnic and community based associations, and non-governmental organizations.

All existing **federal ministries in Ethiopian** are believed to be relevant to multi-sectoral development plans in the basin. Each government institution, in one way or another, is involved in the regulatory activities, provision of technical assistance and advisory services to the regional bureaus and private sectors engaged in any activity carried out in the Basin. Regional Bureaus, Zonal and Woreda (district) offices are also key participants in the implementation of development projects and/or programs in the Basin.

Some of the most important **academic and research institutions** located in the Abbay Basin area, and actively participating in development projects there are the universities of Jimma, Gonder, and Bahir Dar, Ambo agricultural College and Adet Agricultural Research Center. They provide consultancy, training, and multi-disciplinary research services as partners in most of the development projects in the area.

Available evidences show that the Ethiopian Orthodox Church (EOC) and the Ethiopian Mekane Yesus Evangelical Church (EMYEC) have been actively involved in the relief and development activities being carried out in the basin and beyond. They are potential stakeholders in terms of relief work, development intervention and the promotion of development-oriented community participation. Other religious institutions, with a limited following, also participate in development processes in and around the Basin, although their role is minimal.

Ethnic-based associations in the Abbay Basin such as the Amhara Development Association (ADA), Amhara Relief Organization (ARO) and Amhara Saving and Credit Association (ASCA) have been working in the Amhara region. Likewise, the Oromo Development Association (ODA), Oromo Relief Organization (ORO) and Oromo Saving and Credit Association (OSCA) are actively involved in the promotion of relief and development in the Oromia region. These associations have a significant role to play as potential partners in multi-sectoral development projects to be undertaken in their respective regions of the Basin.

Historically, **grass root community-based organizations** have played an important role in Ethiopia in the mobilization of self-initiated collective action. *Idir/kire* (burial associations), *Iqub* (saving societies) and *Maheber* (socio-religious groupings) are the most common such community organizations among the Amhara and Oromo populations living in the Abay Basin area. The high influence they wield and the trust and social acceptance that they enjoy in their respective communities gives them the leverage to mobilize their memberships for collective action. **Farmers' cooperatives**, which are more recent rural economic institutions introduced since the time of the socialist military regime in Ethiopia, are the other important organizations to be considered when contemplating the promotion of any development-oriented projects in the basin.

A study report produced by the Christian Relief and Development Association (CRDA) in 2004 indicated that the bulk of the **registered NGO** investment in the Abbay Basin was concentrated in the Amhara Region. According to this source, as many as 43 NGOs were operating in the region at the time. It was also indicated in the Abbay Basin Master Plan document that about 40 known NGOs and 10 to 15 “unknown” NGOs had also been engaged in different activities in 93 districts (Woredas) of the basin area. Given the huge development and humanitarian intervention experience of a number of international and local NGOs in the Basin, the opportunities exist to mobilize these as potential partners in any future development endeavors there.

Data is not available on specific roles of institutions and organization in development activities in the Blue Nile Basin in Sudan.

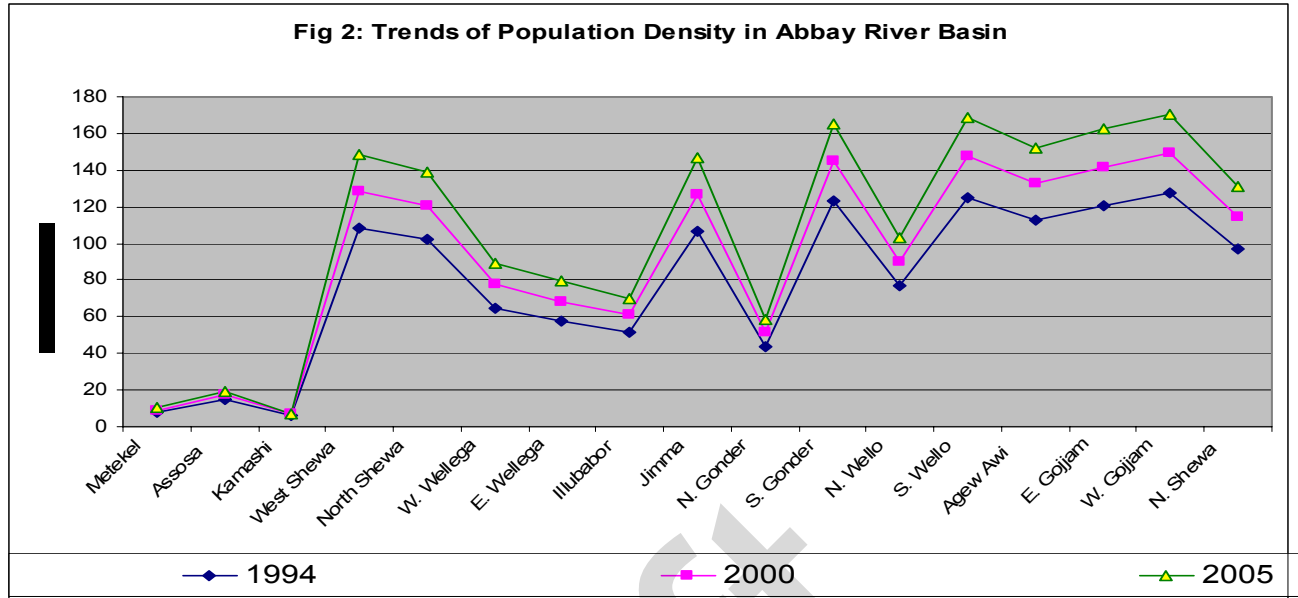
1.2 Socio-Economic Profile

1.2.1 Population Characteristics

1.2.1.1 *Population Size and Structure*

According to projections made on the basis of the Ethiopian National Population and Housing Census of 1994, the Abbay Basin currently has an estimated population of 30.7 million. This indicates a 35% population increase in the Basin during the last ten years after the most recent census in the country. The overall sex ratio of the Basin population is about a unity i.e. 100 males per 100 females, with a slight variation in some of the administrative zones such as South Gonder (104.7 males per 100 females) and Illubabor (96.7 males per 100 females). The observed variation in sex ratio by administrative zones could be due to sex differentials in mortality and/or migration into and out of the area. As for dependency ratio, most of the population in the Abbay River Basin is in the younger age group. Child dependency ratio, which is expressed as number of population under the age of 14 to those in the working age group (15-64) is around 85, though the ratio for some of the administrative zones is lower. Child dependency ratio is the highest (93.1) in Oromia Regional State, probably due to the effect of fertility rate in the region. Old age dependency ratio, on the other hand, is the lowest: around 7 persons per 100 persons in the working age group (15- 64 years).

There is uneven distribution of population density within the Abbay River Basin (Figure 2). Crude population density, which is defined as the total number of population per km², ranges from 7.3 persons per km² in Kamshi Administrative Zone of the Benishangul-Gumuz Regional State to 127.4 persons per km² in West Gojjam Administrative Zone, Amhara Regional State in 1994. Even though there is a constant increase in the number of population per km² in all administrative zones located in the Basin over time, there is a considerable variation in terms of population pressure across regions and administrative zones. The pressure is extremely low in Benishangul-Gumuz while it is the highest in Amhara Regional State with the exception of some zones like North Gonder and North Wollo. Population-land ratio is, however, modest in most of the administrative zones of the Oromia Regional State located in the Basin. The majority of the population in Abbay river Basin are rural residents. Only about 10% of the estimated population of the Basin lives in urban areas. No significant variation is also observed in the pattern of residence by administrative zones located in the Basin. The following figure shows trends of population density across the administrative zones and regions located in the Abbay River Basin of Ethiopia.



Sources: CSA (1999) The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Volume II Analytical Report.

CSA (1998a) The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Volume II Analytical Report.

CSA (1998b) The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Volume II Analytical Report.

Despite showing a slight decrease between 1994 and 2000, infant and child mortality is still the highest in all regional states and administrative zones located in the Abbay Basin (Table 2). Comparative analysis of data from the 1994 Population and Housing Census as well as the 2000 demographic and health survey (DHS, 2000) revealed that the chances of infant and child survival are the worst in Benishangul-Gumuz Regional State though it is relatively better among those residing in the Amhara Regional State. The same trend is also observed in the average number of years that a newly born child is expected to live across regions indicating that the quality of life is extremely low among residents of the Basin. Average life expectancy at birth ranges from 46.0 and 49.6 years for males and 46.5 and 50.8 for females. Table 3 below depicts infant and child mortality rates and life expectancy by region in the Abbay Basin of Ethiopia.

Table 3: Infant and Child mortality rates and life expectancy in Abbay-Blue Nile Basin, 1994-2000

Location	IMR		Under five Mortality		Life Expectancy (1994)		
	1994	2000	1994	2000	Male	Female	Both
Ben Gumuz	140	97.6	209	197.7	46.0	47.0	46.5
Metekel	143		212		45.1	47.2	46.1
Assosa	143		213		46.1	46.0	46.1
Kamashi	123		181		49.1	50.0	49.6
Oromia	118	116.2	173	193.8	49.2	51.7	50.4
West Shewa	111		161		50.0	53.9	51.9
North Shewa	106		154		50.9	54.6	52.7
West Wellega	119		175		48.9	54.7	50.3
East Wellega	108		157		50.5	54.3	52.3
Illubabor	120		176		48.3	52.1	50.2
Jimma	147		219		43.8	47.2	45.5
Amhara	116	112.4	170	183.4	49.6	52.2	50.8
North Gonder	105		153		51.8	54.1	52.8
South Gonder	114		167		50.2	52.2	51.2
North Wollo	113		165		50.1	52.8	51.5
South Wollo	128		189		46.9	50.5	48.6
Agew	106		154		51.6	52.9	52.7
East Gojjam	142		211		45.1	47.6	46.3
West Gojjam	111		161		50.7	53.1	51.8
Bahir Dar	85		120		54.6	60.0	57.0
North Shewa	101		145		52.4	55.5	53.8

Source: CSA (1999) The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Volume II Analytical Report.

CSA (1998a) The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Volume II Analytical Report.

CSA (1998b) The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Volume II Analytical Report.

CSA and ORC Macro (2001). Ethiopia Demographic and Health Survey 2000. Addis Ababa.

With an estimated total population of 13,627,000, the Blue Nile Basin in the Sudan has an annual growth rate of 2.7 %, Blue Nile State accounting for the highest (4.6 %), and Northern State for the lowest (1.66%) (Table 3). Crude birth rate is estimated at 37.5%, and crude death rate at 10.4%, the natural increase rate being 27.1%. Children under 14 years of age constitute 41 %, while old people (60 and above) make up 4.4 percent of the population. Thirty-five percent of the population are urban residents, and as for sex ratio, the estimate is that there are 102 males for every 100 females. Average infant mortality rate is reported to be 105 per 1000 live births (112.3 for males and 97 for females). Under 5 mortality on the other hand goes up to an average of 152 persons per 1000 live births (158.5 for males and 145.3 for females). Average life expectancy is estimated to be 52.4 and 57.3 for males and females respectively.

Table 4 below indicates the demographic indicators for the six states in the Blue Nile Basin: Northern, Khartoum, Elgezira, Sinnar, Blue Nile and White Nile.

Table 4: Demographic indicators for the six states of the Blue Nile Basin

Indicators	Blue Nile Basin States						
	Average	Northern	Khartoum	Elgezira	Sinnar	Blue Nile	White Nile
Estimated Population (000) 2004		624	5557	3797	1301	716	1636
Annual growth rate (%) 2003-2008	2.7	1.58	3.67	2.79	2.53	2.92	2.47
Urban population (%of total) 2004	35.7	16.06	87.2	23.53	29.67	26.8	30.72
Population under age 5 (% of total) 2004	15.4	14.12	14.37	15.88	16.2	15.38	16.47
Population (06-24) years (% of total) 2004	43.6	41.12	39.85	43.51	45.84	45.66	45.86
Married women (15-49) years (000) 2004	321	81	741	520	202	125	259
Population under 15 years (% of total) 2004	40.9	39.14	36.18	41.73	43.23	41.03	44.36
Population 60 years and over (% of total) 2004	4.4	6.04	3.87	4.44	4.01	3.78	3.97
Sex ratio, males per 100 females, 2004	102		105	112	98	96	99

Box 4

Interesting variations in sex ratio can be observed among different administrative zones in the Abbay-Blue Nile Basin, perhaps due to sex differentiation in mortality and/or migration into and out of the area. The population of the Basin is quite young, the largest cohort being between the ages of 1-14 years thus high child dependency ratio and low old age dependency.

The foregoing discussion on key variables of demographic and population characteristics of the Abbay-Blue Nile Basin has been summarized and presented in the following table.

Table 5: Key Demographic and Population Characteristics of the Abbay-Blue Nile Basin

Variable	Abbay-Blue Nile Basin
Total population (million)	50.3
Sex ratio	100:100
Child dependency ratio	85:100
Old age dependency	7:100
Population density (per sq.km2)	7.3-127.4
Urban population	10%
Infant mortality	105-108
Life expectancy, male	46-49
Life expectancy, female	46.5-50-8
Annual growth rate	2.7-3.5%

1.2.1.2 Ethnic and Religious Composition

Major ethnic groups in the Abbay river basin of Ethiopia are Amhara (Amhara Regional State), Oromo, (Oromia Regional State), and Jebalawi and Gumuz (Benishangul-Gumuz Regional State). In addition, those who belong to the Agew/Awingi ethnic group are also dominant in Agew Administrative Zone of the Amhara Regional State. Depicted in Table 6 is the distribution of population in the administrative regions and zones of the Abbay River Basin in Ethiopia by ethnic group.

Table 6: Population distribution in percent by ethnic group in Abbay River Basin, 1994

Location	Amhara	Oromo	Agew/ Awingi	Tigraway	Gumuz	Jeblawi	Shinasha	Others
Ben-Gumuz	22.2	12.8	3.8	0.9	23.4	25.1	7.0	4.8
Metekel	23.8	13.4	8.5	0.4	33.2	0.2	15.9	4.6
Assosa	26.0	11.0	0.2	1.5	0.6	54.3	0.0	6.4
Kamashi	0.2	17.5	0.0	0.1	77.6	4.4	0.0	0.2
Oromia	9.1	85.0	0.0	0.4	0.0	0.0	0.0	4.1
West Shewa	6.7	89.8	0.0	0.2	0.0	0.0	0.0	0.5
North Shewa	19.8	79.5	0.0	0.1	0.0	0.0	0.0	0.5
W. Wellega	2.4	96.1	0.0	0.1	0.0	0.1	0.0	1.1
E. Wellega	10.5	88.5	0.0	0.6	0.0	0.0	0.0	0.1
Illubabor	7.3	88.9	0.0	1.3	0.0	0.0	0.0	1.8
Jimma	5.0	81.6	0.0	0.6	0.0	0.0	0.0	11.1
Amhara	91.2	3.0	2.7	0.3	0.1	0.0	0.0	0.2
North Gonder	89.7	0.1	0.6	0.9	0.2	0.0	0.0	0.1
South Gonder	99.9	0.0	0.0	0.0	0.0	0.0	0.0	0.1
North Wollo	99.6	0.0	0.0	0.3	0.0	0.0	0.0	0.1
South Wollo	97.7	1.8	0.0	0.4	0.0	0.0	0.0	0.0
Agew	48.6	0.2	50.0	0.0	1.0	0.0	0.0	0.2
East Gojjam	99.8	0.1	0.0	0.1	0.0	0.0	0.0	0.0
West Gojjam	99.4	0.3	0.1	0.0	0.1	0.0	0.0	0.1
Bahir Dar	93.2	0.7	0.7	4.0	0.0	0.0	0.0	0.8
North Shewa	93.7	4.3	0.0	0.1	0.0	0.0	0.0	0.1

Sources: CSA (1999) The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Volume II Analytical Report.

CSA (1998a) The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Volume II Analytical Report.

CSA (1998b) The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Volume II Analytical Report.

With respect to ethnic composition, the southern zone of the Blue Nile Basin in the Sudan is the most diversified. The major ethnic groups in the administrative states of the Blue Nile Basin that are located south to the north include the following: the Ingassana, Berta, Watawit Danagla, Gumuz, Hamaj, Funj, Wwalla, Rufaa El Hoi, and Om Bararo. In the Northern State of the Northern Zone of the Blue Nile Basin are found the ethnic groups of Danagla, Halfawien, Bidirya, Manasir, Mahas, Shaiygia, and the nomadic Arabs. Table 7 below presents the distribution of ethnic groups in the Blue Nile Basin.

Table 7: Major Ethinc Groups in Blue Nile Basin, Sudan

Souther Zone	Norther Zone
Ingassana	Danagla
Berta	Halfawien
Watawit	Bidirya
Danagla	Manasir
Gumuz	Mahas
Hamaj	Shaiygia
Funj,	
Wwalla	
Rufaa El Hoi	
Om Bararo	

Even though the majority of the population residing in the Abbay River Basin in Ethiopia are followers of the Ethiopian Orthodox Church, there are also adherents of the Islamic faith, the Protestant Church and tradition beliefs. Table 8 indicates population distribution in percent by religion in the administrative regions and zones of the Abbay River Basin in Ethiopia.

Table 8: Percentage distribution of population by religious groups in Abbay River Basin, 1994

Location	Religious Group					
	Orthodox	Protestant	Catholic	Muslim	Traditional	Others*
Benishangul-Gumuz	34.8	5.8	0.6	44.1	13.1	1.5
Metekel	53.5	3.8	0.6	18.7	21.3	2.2
Assosa	18.7	2.7	0.2	78.0	0.0	0.2
Kamashi	26.2	27.0	1.7	5.8	34.6	4.2
Oromia	41.3	8.6	0.6	44.3	4.2	1.0
West Shewa	80.6	6.6	0.2	5.3	7.0	0.2
North Shewa	94.0	0.6	0.0	5.0	0.2	0.1
West Wellega	44.0	37.3	1.1	16.9	0.4	0.2
East Wellega	61.7	16.4	0.9	8.3	12.4	0.1
Illubabor	45.8	9.8	0.3	42.6	1.3	0.1
Jimma	15.8	1.5	0.1	82.4	0.1	0.1
Amhara	81.2	0.1	0.0	18.6	0.1	0.0
North Gonder	95.3	0.0	0.0	4.5	0.0	0.0
South Gonder	95.5	0.1	0.0	4.4	0.0	0.0
North Wollo	83.4	0.0	0.0	16.6	0.0	0.0
South Wollo	29.5	0.1	0.0	70.3	0.0	0.0
Agew	93.5	0.1	0.0	5.4	0.0	0.8
East Gojjam	96.7	0.1	0.0	3.2	0.0	0.0
West Gojjam	98.3	0.1	0.0	1.6	0.0	0.0
Bahir Dar	87.5	0.8	0.1	11.5	0.0	0.0
North Shewa	94.5	0.2	0.0	5.3	0.0	0.0

Sources: CSA (1999) The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Volume II Analytical Report.

CSA (1998a) The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Volume II Analytical Report.

CSA (1998b) The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Volume II Analytical Report.

Most followers of the Ethiopian Orthodox Church reside in Amhara Region, and some administrative zones of Oromia bordering with the Amhara Region. A greater proportion of the Muslim population reside in Jimma Administrative Zone of Oromia, South Wollo Administrative Zone of Amhara, and Assosa Administrative Zone of the Benishangul-Gumuz Regional States. Similarly, most followers of the Protestant Church live in West and East Wellega Administrative Zones of Oromia Region, and the Kamashi Administrative Zone of Benishangul Gumuz Region. Those who follow traditional beliefs are found in Kamashi and Metekel Administrative Zones of the Benishangul-Gumuz Region and East Wellega of Oromia Region. However, members of the Catholic Church are very few in the Abbay Basin.

In terms of religious composition, the Blue Nile Basin in the Sudan is dominated by adherents of traditional beliefs, followed by Christians. A certain number of Muslims are also known to exist.

1.2.2 Livelihood Profile and Employment Characteristics

1.2.2.1 *Livelihood Profile*

A large proportion of the Abbay-Blue Nile sub-basin remains characteristically rural, which perhaps best explains the livelihood structures of the inhabitants in general. Agriculture - rain-fed, irrigated and shifting - and migratory pastoralism form the livelihood base of the population and the mainstay of the economy in the basin regions/nations.

In the Abbay Basin in Ethiopia, more than 90% of the population are rural inhabitants³. According to the 2001/2002 Agricultural Enumeration Survey, the majority (60%) of the population in the three regions in the basin (Benishangul-Gumuz, Amhara, and Oromia) are engaged in fully agricultural occupations. The same survey also showed the dominant (about three-fourth) form of agriculture in each of the regions in the Basin is mixed farming (crop production and livestock raising), followed by crop only farming (about one-fifth) and animal husbandry. The dominance of crop and livestock holdings in most of the zones located in the Basin area implies that mixed farming (i.e., sedentary agriculture) is practiced more than pastoralism. A smaller proportion of 'only livestock' holdings is also an indicator of few pastoralists in the Basin, which implies cross border seasonal livestock and human movement in search of pasture and water is not the norm in these areas.

³ Abbay River Basin Integrated Development Master Plan Project, Phase 2, Vol. XIV – Demography and Sociology.

The type of occupation that residents engage in could also describe the livelihood pattern of the population living in urban areas of the Abbay Basin in Ethiopia. According to the 1999 National Labor Force Survey, the service sector accommodates almost half of the urban employed population for each of the regions. About 20% of the urban population working in Amhara Region are involved in the manufacturing sector (the second highest). Urban agriculture employs 21.6% of the Benishangul-Gumuz urban residents and 17.8% of the Oromia's urban employed population, which implies that the service and manufacturing sectors are not sufficiently developed in these administrative regions to absorb substantial numbers of the urban work force. Employment opportunity in the public administration is the least in Amhara (6.0%), relatively higher in Oromia (4.9%), and the highest in Benishangul-Gumuz (12.3%).

Even though the contribution of the non-farm sector is not adequately studied in Ethiopia, its importance cannot, however, be underestimated. Based on some studies conducted so far (MoLSA, 1997, Tassaw, 2002), the non-farm employment is taken as a coping mechanism or supplementary business rather than a primary activity. The majority of the Abbay Basin population in Ethiopia, however, undertake non-farm activity jointly with agriculture.

Box 5

Only few, 1.6%, 2.0% and 3.8% of the population in Benishangul-Gumuz, Oromia and Amhara regions of the Abbay Basin in Ethiopia, respectively engage in non-agricultural types of occupation mainly cottage industries, sale of firewood and other forest products, as well as trade and hired labor.

Sedentary agriculture, (rain-fed and irrigated), and shifting cultivation, and migratory pastoralism constitute the basic livelihood strategies in the Blue Nile Basin of the Sudan with variations in the size of groups engaged in the activities.

Box 6

In the same area (Blue Nile Basin), artisan gold mining also employs a small labor force, entirely comprising members of the Berta ethnic group, albeit in small numbers

Comparative data is not available on the rural-urban employment characteristics and sector based distribution of the labor force for the Blue Nile Basin in the Sudan.

1.2.2.2 Employment Characteristics

In regards to activity rate⁴ in the Abbay Basin of Ethiopia, the figures for the Amhara, Oromia and Benishangul-Gumuz regions are 76.6%, 70.4%, and 69.6% of the working

⁴Activity rate is usually defined as the proportion of the total economically active (employed plus unemployed) population to the total working age population (15-65).

age population⁵ respectively. The unemployment rate⁶ is reported to be 7.7%, 6.1% and 5.2% for each region in the same order. Further breakdown of the data by urban and rural parts of the regions shows that the former represent lower activity and higher unemployment rates, as contrasted with those of the latter. Table 9 shows the activity and unemployment rates in the three regions of the Abbay River Basin in Ethiopia for persons of 10 years and above.

Table 9: Activity and Unemployment Rates for Persons aged 10 years and over: 1999

Region	Total		Urban		Rural	
	Activity rate	Unemployment rate	Activity Rate	Unemployment rate	Activity Rate	Unemployment rate
Amhara	76.6	7.7	54.2	22.5	78.8	6.4
Oromia	70.4	6.1	55.9	19.0	72.3	4.6
Benishangul-Gumuz	69.6	5.2	57.7	18.8	70.7	4.0

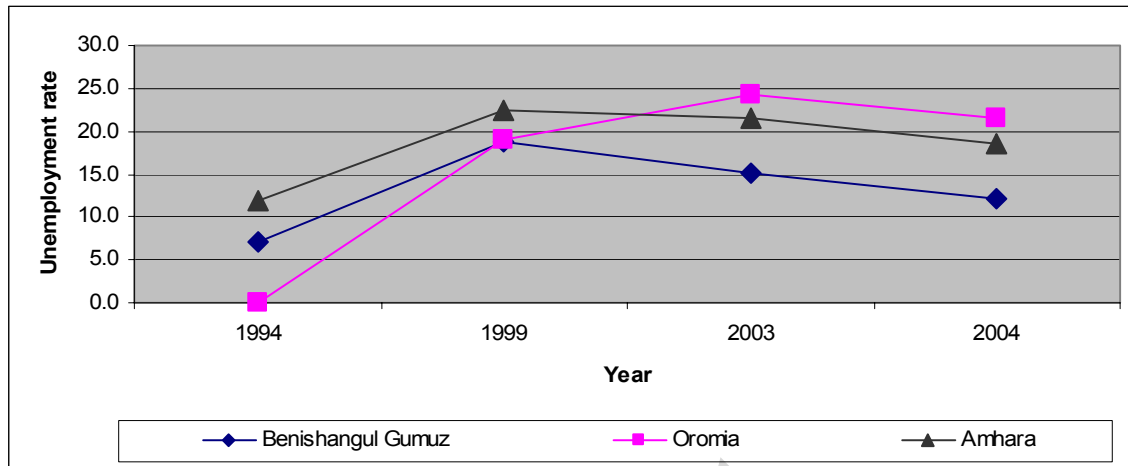
Source: CSA, 1994 National Labor Force Survey

Lower activity rates in the urban areas of the Abbay River Basin in Ethiopia are attributed to the engagement of a large part of the of population in schooling, high number of residents depending on pensions, the number of women confined to the home as housewives, and the reliance of relatively many on remittances, among other factors. Higher rates of unemployment in the urban areas are explained in terms of mainly the less absorbing capacity of the urban labor market and the large-scale rural-to-urban migration. The national urban unemployment rate in Ethiopia since 1994 shows a slight increase in the number of unemployed people in the urban areas of the Abbay River Basin. Still, according to available evidence, there have been declining trends in the recent past in unemployment in Benishangul-Gumuz and Amhara, with the exception of Oromia. Figure 2 shows the declining trends in unemployment rates in the urban areas of the Abbay River Basin.

⁵The Working age population is usually determined by considering national circumstances. In Ethiopia, population 10 years and over are considered as working age population (Eshetu, 2006).

⁶The unemployment rate is computed as the proportion of the unemployed population to the economically active population. Unemployment is a condition of not having a job when a person needs one, often referred to as being 'out of work' or 'unemployed'.

Figure 2: Trends in Urban Unemployment Rates in the Abbay River Basin.

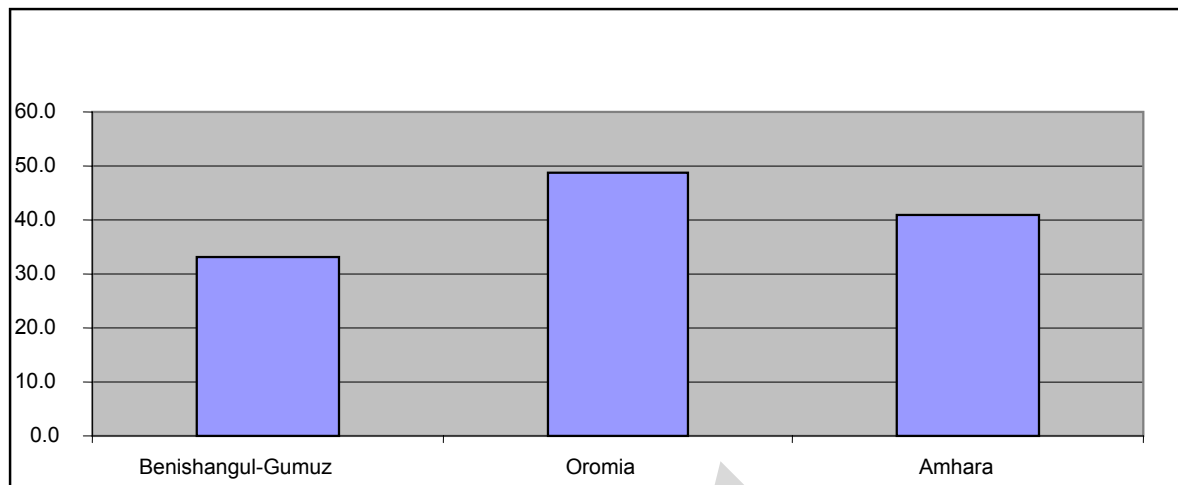


Sources: CSA (1998). Results for the 1994 Population and Housing Census
 CSA, (2000). The 1999 National Labor Force Survey
 CSA (2004): The 2003/2004 Urban Employment Survey

Concerning the underemployment situation in the Abbay River Basin, the available data reveals that time related underemployment⁷ ranges between 33.2% in Benishangul-Gumuz, 48.8 % in Oromia Region, and 42.0% in Amhara. On the basis these indicators, it is possible to infer that over two-fifth of the employed human power in the Abbay Basin is able and willing to engage in some type of work for additional number of hours. Figure 3 shows the proportions of underemployed people in the three administrative regions of the Abbay River Basin.

⁷Time related underemployment measures the proportion of the employed population who have been interested and ready to do additional hours of work, but could not find work during a certain reference period. A person is therefore considered to be underemployed if he is forced by unemployment to take a job that he thinks is not adequate for his purpose, or not commensurate with his training. This problem is particularly tremendous in the rural areas where people are willing to work more hours but unable to do so due to insufficient land and agricultural equipment to keep them fullay employed.

Figure 3: Proportion of Underemployed in the Abbay River Basin



The data available on activity and unemployment rates in the Blue Nile Basin of the Sudan is only for two of the five states, namely the Northern State and the Sinnar State. This is presented in a contrastive manner in the belief that it provides an overview of the situation in the overall basin, in spite of the fact that the data used comes from projections made thirteen years ago. The population of the Northern State who were in the age of 10 year and over were estimated to be 363,349 by 1993. 127,627 (35.1%) of this were reported to be economically active during the same period. The refined activity rates for males and females were 68.9% and 5.9% respectively. Lower female activity rate was ascribed to traditions restricting the economic participation of women, and the underreporting of the number of women engaged in traditional agricultural activities. Male activity rates were 70.0% in the urban and 68.8% in the rural areas, and those of females being 11.6% and 5.2% respectively. The unemployment rate accounts for 8.8% of the active population for both sexes, 7.4% for males and 23.1% for females.

According to the source material used for the Blue Nile Basin part of the synthesis report (El-Medani, 2006), the Sudanese State of Sinnar had an estimated active population of 252,287 (39.8%) out of 633,593 people in the age group of 10 and over, by 1993. The refined activity rates for males and females were 73.2 percent and 7.8% respectively. The urban and rural activity rates for males were 68.9% and 74.8%, as compared with 10.8% and 6.6% for females. The reasons given earlier for the lower female activity rates in the Northern State are also applicable in the Sinnar State. The unemployment rate in the Sinnar State was 17.0% of active population for both sexes, 14.4% for males and 41.4% for females. The unemployment rate in urban areas was 13.1% for males and 27.1% for females, as compared with 14.8% and 49.6% in the rural areas.

In the light of the unemployment and underemployment profile for both urban and rural areas in the Abbay-Blue Nile Basin, it would reasonable to assume that any large-scale infrastructural investment such as the Joint Multi-Purpose Project (JMP) could create new employment opportunities, besides significantly reducing the rates of unemployment and underemployment in the region. Moreover, such huge trans-boundary project would

significantly alter the livelihood profile of the basin's population, not to mention its impact on the process of urbanization in the area.

1.2.3 Social and Physical Infrastructure

1.2.3.1 Educational Services

The available data on the educational service in the Abbay River Basin of Ethiopia is region specific rather than basin wide. Hence, it is necessary to consider the information available by region, to get a general picture of how the service coverage looks at basin level. The school system in the current education and training policy of Ethiopia consists of primary school (grade 1-8), secondary school (grade 9-10) and preparatory (grade 11-12), and technical and vocational education and training (TVET) (MOE, 1995). Accordingly, there are 299 primary schools in Benishangul-Gumuz Region, 5,043 in Oromia Region and 3,157 in Amhara Region. There are also 18 secondary and preparatory schools in Benishangul-Gumuz, 214 in Oromia, 106 in Amhara Regions. The number of TVET schools is 2 in Benishangul-Gumuz Region, 37 in Oromia and 21 in Amhara regions (MOE, 2003).

Student to teacher ratio (STR) is one of the common indicators of the efficiency and quality of educational service provision. The lower the STR is, the higher the teacher – student interaction becomes, which affords the opportunity for both groups to be actively and closely involved in the teaching/learning process. Thus, smaller class size makes it possible to take personal interest in individual students, providing them with and more frequent support. Accordingly, in the academic year 2004/5, there were 293 teachers in primary schools (grade 1-8), 2,631 in secondary schools (grades 9-12) located in Benishangul-Gumuz Region. The number of teachers in Oromia Region during the same period was 57,894 at the primary level, and 6185 at the secondary. In the Amhara Region, there were 42,414 primary school teachers and 3,626 secondary level teachers in the same year. School enrollment rate in each region in the Abbay Basin increased to an average of 50, 78, and 66 students for every teacher in the primary schools in Benishangul-Gumuz, Oromia and Amhara Regions respectively. The corresponding secondary school student-teacher ratio in the regions was 28, 56 and 52 in the same order. Countrywide, the optimal student-teacher ratio is considered to 50 for primary schools and 40 for secondary schools. In view of this, the number of teachers in Benishangul-Gumuz may be described as sufficient, while it falls short what is considered as the optimal rate in the other two regions, Amhara and Oromia, the problem being more serious in the former.

The net enrolment rate in primary education⁸ in Benishangul-Gumuz region of the Abbay Basin of Ethiopia in the year 2004 was 43.6% for males and 31.7% for females. The primary education enrolment rates for the same period were 40.2% for males and 33.2%

⁸The net enrolment rate in primary education is defined as the number of pupils of primary school (age 7-12 years) who are currently attending primary school divided by the total number of children in the age group 7-12 years

for females in Oromia, and 34.7% for males and 39.3% for females in Amhara region. It is easy to deduce from this data that more than half of the primary school age population (7 to 12 years) in each region do not attend school. Enrollment at secondary school⁹ level is even lower in all three regions. Over three-fourth of the population eligible for secondary education do not therefore have access to the service, appearing to be engaged in different other activities instead. This might partly be explained in terms of household poverty, which prevents parents from sending their children to school.

In the Blue Nile Basin (Sudan), in 2002/2003 the enrollment rate in basic education totaled 75.9%: 76.7% for boys and 69.0% for girls. The literacy rate during the same period for people of 10 years and over reached 57.2%: 58.0% for boys and 56.5% for girls. For an overview of the educational service in the Blue Nile Basin of the country, the available data on two states, Northern State and Blue State, has been presented here under.

According to El-Medani, (2006), the literacy rate in the Northern State for people 6 years and over was 65.7% for both sexes, 74.3% for males and 58.0% for females. In urban areas, the literacy rate was 75.1% for both sexes, 81.2% and 69.0%, while the rate in the rural areas was 64.3% for both sexes, 73.3% and 56.9% in the same order as the preceding. The crude enrolment rate for junior secondary school age population (12-14 years) was 82.1% for both sexes, 84.0% for males and 80.1% for females. The crude enrolment rate for senior secondary school age population (15-17 years) was registered as 63.8%, for both sexes, 64.4% for males and 63.1% for females. The crude enrolment for the tertiary level age group (18- 24 years) was recorded as 24.4% for both sexes, 26.5% for males and 22.6 % for female. It can be deduced from these figures that while the sex differentials persists in both literacy and crude enrolment rates, they are nevertheless only slightly higher for males in the latter cases.

Looking at the situation in the Blue Nile State, we find the literacy rate for people 6 years and over to have been 30.0% for both sexes, 38.9% for males and 20.6% for females. The disaggregation of the same data by urban and rural areas gives us 58.5% for both sexes in the former, 68.8% for males and 46.9% for females, and 22.2% for both sexes in the latter, 30.5% and 13.4% respectively. The crude enrolment rate for the primary school age population (6-11 years) was 29.1% for both sexes, 32.4% and 25.4% in the usual order. The crude enrolment rate for secondary school age population (12-14 years) topped 39.0% for both sexes, 43.9% for males and 33.4% for females.

1.2.3.2 Health Services

Access to health services is one of the development indicators in a given country. The higher the access to health services the better the quality of life. The picture of existing

⁹The net enrolment ratio at secondary school level is defined as the proportion of children aged 13-18 years and is attending secondary school (grade7-12) divided by the total number of children in age group13-18 years

health facilities and service coverage in the regions of the Abbay Basin in Ethiopia looks like the following. The six-tiered national health care system in Ethiopia consists of community health services (health posts), health stations (clinics), health centers, district hospital, regional hospitals, and central referral hospitals. On the basis of the health services expansion program, health centers cover wider area and provide specialized outpatient services in Ethiopia. A health center is expected to provide services for at least 25,000 people while hospitals are expected to serve as referral centers for the population in the catchment areas. There are few health centers and hospitals in each of the regions located in the Abbay River Basin. Only 2 health stations (clinics) and 11 health centers are located in Benishangul-Gumuz Region. In the Oromia Region, there are 30 hospitals and 185 health centers, which figure does not specify the number of health facilities located within the Abbay Basin portions of the regional state. As for the Amhara region, the number of hospitals and health centers in 2006 is reported to be 18 and 126 respectively. Hospitals in the regions are also equipped with limited hospital beds and specialized staff. The hospitals in Benishangul-Gumuz are reported to be equipped with only 254 beds, while those in Oromia and Amhara are furnished with 2,311 and 1,505 beds in the order their mention.

Important as the involvement of the private sector is to the enhancement of the quality and coverage of health services, the number of private clinics and health centers in the Abbay River Basin is nevertheless too small. According to the information compiled by the Ministry of Health (MOH, 2005), there were 19 such clinics in Benishangul-Gumuz, while there were 672 and 304 in Oromia and Amhara Regions respectively.

The ratio of health professional (physicians, health officers, nurses, environment health and health extension workers) versus population is another indicator of access to health services. Accordingly, the ratio is the lowest in Benishangul-Gumuz (1 health professional for 43, 536 residents), while the ratios are 138,802, and 142,184 in Oromia and Amhara regions respectively. At national level, the ratio of population per physician is 29,777. In regards to the regions in the Abbay River Basin, the population versus physician ratio is far below the standard set by the World Health Organization (WHO), which is 1 physician per 10,000 people. The gap observed in the stated ratios suggest that emphasis should be given to human resource development in the health sector, besides the expansion of health facilities.

The following table (Table 10) illustrates the ratios of health facilities and health personal per 100,000 people in the Blue Nile Basin states of the Sudan. The data was adapted from the summary table in the report on the socio-economic features of the Blue Nile Basin, by El-Medani (2006).

Table 10: Distribution of Health facilities and Health Personnel in the Six States of the Blue Nile Basin

Indicator	Blue Nile Basin States						
	Average	Northern	Khartoum	Elgezira	Sinnar	Blue Nile	White Nile
Health facilities per 100,000 population							
Hospital	1.8	4.9	0.8	1.3	1	1.7	1.1
Beds	106.9	240.1	103	75.5	83.8	63.2	76
Health personnel per 100,000 population							
Specialists	3.9	3.3	12.5	2.6	2	1	2.1
Dentists	1.0	0.8	3.1	0.6	0.6	0.3	0.3
Doctors	17.6	17.9	48.9	10.9	9.4	9.8	8.6
Technicians	11.8	8.3	39.3	6.4	4.1	5.9	7.0
Medical Assistants	30.1	53.4	39.1	23.8	19.8	18.1	26.3
Nurses	77.7	110.1	82.7	52.5	129.8	39.4	51.5
Public health officers/inspectors	1.4	1.174.9	2.3	2.1	0.7	1.1	1.3
Midwives	44.8		36.8	37.0	53.6	31.2	35.5

1.2.3.3 Major Human Diseases

Data is not available on major human diseases in the Abbay Basin (Ethiopia), except for HIV/AIDS. The ‘HIV AIDS Main Indicators Report’ produced by the Ethiopian Federal Ministry of Health (MoH, 2005) shows the incidence of HIV infection to be the highest among the population of age 15-49. According to this report, about 4% of the population in this age group in Benishangul-Gumuz Region gets infected with the HIV virus every year. The incidence rates in Oromia and Amhara regions are 2.9%, and % respectively. In view of the huge health, economic and social implications of the disease, efforts should be stepped up by the general public, government, NGOs and other concerned bodies to combat the pandemic. Emphasis needs to be given especially to the Amhara Region where the HIV prevalence rate is said to be relatively higher.

In the Blue Nile Basin of the Sudan, the following ailments are reported to have been the leading causes of admission to hospital in 2003. Table 11 presents these ailments per each state in the Basin.

Table 11: The Leading Causes of Deaths in Hospitals, 2003

Disease specific deaths as % of total state	Blue Nile Basin States						
	Average	Northern	Khartoum	Elgezira	Sinnar	Blue Nile	White Nile
Malaria	24.6	14.5	7.7	8.1	23	44.6	49.6
Pneumonia	14.4	8.0	7.0	12.6	29.6	14.1	15.2
Septicemia	2.5	1.1	7.5	5.5	0.8	0	0.2
Circulatory system	1.8	0	6.8	3.0	1.1	0	0
Anemia	4.7	4.7	3.5	4.4	6.2	4.6	4.5
Malnutrition	3.2	1.1	3.1	5.3	0.4	9.5	0
Dehydration	2.5	1.8	4.0	5.6	0.8	0.7	1.8
Acute renal failure	2.2	3.3	4.3	5.2	0	0	0.6
Diarrhea	3.7	4.3	3.8	0	3.6	9.5	1.0
Other heart diseases	3.6	6.2	3.0	4.8	1.7	0	6.0
Total (10) deaths	63.2	44.9	50.6	54.7	67.0	83.0	78.8
Total of other deaths	36.8	55.1	49.4	45.3	33.0	17.0	21.2
Grand total	100	100	100	100	100	100	100

Here it is worth to single out that as is the case for most Sub-Sahara Africs, malaria remains the single largest cause of death for children under five in the Abbay-Blue Nile basin. It seriously affects children's future: they may suffer neurological aftereffects and impaired learning ability. Malaria not only cuts lives short but has a huge socio-economic impacts: patients are often bedridden and incapable of carrying out normal daily activities. The disease cause considerable loss of income and places a heavy burden on families, health systems and society as a whole.

At an individual and household level, personal expenditure caused by malaria include money spent on insecticide-treated mosquito nets, clinic fees, anti-malaria drugs, and burial. Repeated malaria infections, caring for a sick relative, and malaria-related anemia result in the loss of workdays. Individuals who are tired or sick much of the time are unable to work fully whether the work is at home or in the workplace. Lowered productivity, in turn, results in reduced income or fewer crops for consumption or sale.

Thus, potential earnings and household food security are reduced due to frequent illness and malaria deaths. Malaria has also a serious impact on children's productivity. Repeated malaria infections among children have a negative impact on schooling resulting from attention deficits and absenteeism. As a result, children may have a difficult time passing their exams or moving to another grade, which may lead to them dropping out of school altogether. The impact of malaria on the health sector is related to the fact that like any industry, the health sector's productivity declines when its employees are sick. Additionally, the increasing rates of malaria place an increasing burden on health sector resources. When malaria morbidity and mortality is multiplied by related costs, the impact on the health sector and the nation is enormous. Finally, malaria not only negatively impacts the wealth of a country's residents but it is also a major constraint to national economic development. It is argued by health economists that annual economic growth in countries with high malaria transmission has always been lower than in countries without malaria. Thus, the prosperity gap between countries with malaria and countries without malaria is becoming wider with every passing year. In the light of these socio-economic impacts of malaria in Africa in general and the Eastern Nile Basin countries in particular, malaria control and possible eradication program could be an area of transboundary cooperation in the context of the Joint Multi-Purpose project.

1.2.3.4 Drinking Water

Welfare Monitoring Survey conducted by the Central Statistics Authority (CSA) of Ethiopia indicates that 27.2% of the households in Benishangul-Gumuz Region of the Abbay River Basin in Ethiopia have access to safe drinking water. The sources of water supply include protected wells, springs, and shared public and private pipes. Thirty two percent and 28% of the households in Oromia and Amhara regions respectively are reported to have similar access. The rest of the households, representing about 70% of the total in each region, depend on sources of water that are unsafe, which therefore expose the public to water-borne diseases such as diarrhea, cholera, dysentery, etc.

As regards access to drinking water in the Blue Nile Basin of the Sudan, the limited data available is for Sinnar State alone. This is presented below vis-à-vis the data at national level in the belief that it would provide a general picture of access to drinking water in the Basin. Accordingly, only 34.0% percent of the population in Sinnar State has access to piped water, and another 33.5% depend on wells. The following is a profile of the situation at country level in 2000. Piped into dwelling, 24.0%; reservoir, 7.0%; wells, 28.4%; river/spring, 14.7%; rain water, 8.1% and other 6%.

1.2.3.5 Roads and Transport Facilities

The Welfare Monitoring Survey conducted by the Ethiopian Government's Central Statistical Authority (CSA, 2004) reveals that about 47% of the rural households in Benishangul Gumuz Region in the Abbay Basin live less than five kilometers away from the closest all weather roads. The corresponding figures for Oromia and Amhara regions are 48% and 42% respectively, indicating that over half of the population in the Abbay

Basin area are without access to all weather roads. Public transport service is rarely available as most of the towns in the Basin are inaccessible to asphalt or all weather roads. Worse still, only few towns in the Basin (one in Benishangul Gumuz; four in Oromia and six in Amhara Region) can ever be reached by air. No town or city in these regions is connected to a railway line. The only available railway line in Ethiopia is one that runs between Addis Ababa and Djibouti, a small neighboring state. Overall, it is easy to see that there is acute shortage of standard roads and transport facilities in the Basin area, and the country at large.

Occupying the largest surface area in Africa, with diverse ecosystems, there is no question that the development of roads and transport facilities is of crucial importance to the Sudan as a whole. Thus, the railway system is of huge importance as a lifeline connecting south, north and west of Sudan to the main ports along the Red Sea coast. At present the Blue Nile and the Tekeze-Atbara basins in the Sudan are connected to railway network, which is not the case with the Akobo-Sobat Basin. In fact, the railways in Sudan are the oldest and the longest in the continent, extending more than 4,570 kilometers, and together with the branch lines, covering some 5,500 km. The total length of permanent roads in the country is estimated at 5,0000 km, of which 1,700 km are tarmacked, and work is underway on a number of intra-state and intra-basin highways. The government-run Shipping Line of the Sudan owns a number of vessels, which are used to transport passengers and goods. Apart from Port Sudan, the main port, other ports are being rehabilitated and developed such as Suakin (eastern Sudan), Ausif and Bashair, from where petroleum products are exported.

1.2.4 Vulnerability Indicators

The available data on vulnerability in the Abbay Basin in Ethiopia is presented in the contexts of poverty and ecological dimension. According to some studies carried out on the state of poverty in the Abbay River Basin (Dessalegn, 2003; Yared, 2003), rural poverty has been growing in ‘severity and magnitude for the last fifty years mainly due to population growth, lack of access to productive assets, crop failures and the like. As a result of this, the ‘prevalence of poverty and destitution has reached “unacceptably high level in Ethiopia”. According to the results of the Welfare Monitoring Survey conducted by the Central Statistical Authority (CSA), 47.5% of all rural households are believed to be poor¹⁰ (CSA, 2004).

Poverty and destitution have also been well studied in Ethiopia from livelihood perspective, in which the two concepts were understood as ‘states of livelihood deprivation differing in degree’. For instance, Dessalegn (2003) examined the transition from poverty to destitution using data on frequency of famine, declining food

¹⁰ Poverty is a condition in which a person or community is deprived of, and or lacks the essentials for a minimum standard of well-being and life. Since poverty is understood in many senses, these essentials may be material resources such as food, safe drinking water, and shelter, or they may be social resources like access to information, education, health care, social status, or the opportunity to develop meaningful connections with other people in the society.

consumption, and increasing malnutrition and associated health status. Based on the results of such a study, it is possible to conclude that destitution as a ‘downward slide from poverty’ has been increasing in all segments of the Ethiopian population. Currently, destitute households are expected to constitute no less than a third of the Ethiopian rural population (Dessalegn, 2003).

A policy study conducted in Wollo, one of the sub-regions in the Abbay Basin, by the Institute of Development Studies (IDS, 2002) also revealed that the incidence of destitution has dramatically increased in the 1990s, while the number of households which were ‘doing well’ has decreased on the contrary. This agrees with other study findings (Aklilu and Dessalegn 2000) that indicated “an upward trend in poverty and a downward trend in well being”. The argument that underscores a substantial increase in the proportion of destitute households in Ethiopia has also been supported by other studies conducted by Devereux, Sharp and Yared (2002) and Ministry of Economic Development and Cooperation (2000).

Other studies revealed that the clan¹¹-based societies in the western part of the Abbay Basin in Ethiopia are also characterized by widespread poverty and vulnerability¹². According to the observations made by Fekadu (1988), the Gumuz are very poor, living a “hand to mouth” existence, and are “below the threshold” of peasants’ subsistence economy. Dessalegn (1988) described this all-pervasive state of poverty in the region by means of the following sarcastic expression: “If there is equality in Begga (Gumuz) society, it is equality in destitution”.

Existing literature has also showed that vulnerability has been studied from different perspectives, including ecological and social dimensions in the Abbay Basin. A study conducted by Dessalegn (2003), for instance, revealed that peasant vulnerability is the outcome of a relentless ecological stress and large-scale degradation of environmental resources. According to him, peasants in Wollo and Wag Hamra, both located in the Abbay Basin area, remained to be one of the poorest in the country due to virulent and repeated famine and drought in the zones. The people living in the area are identified as those who often suffer from severe food insecurity as ecological vulnerability continues to depress crop and livestock production.

Community and household studies conducted in the same zones of Wag Hamra and Wollo (Dessalegn 1988; IDS, 2002; Yared, 2003), as well as in North Shewa (Yared, 1995; Teferi, 1994) also revealed that rural poverty and destitution is increasing over time. Poverty exposes households of varying degrees of vulnerability to further crisis, by

¹¹ A clan is a group of kin usually comprising ten or more generations whose members believe they are all related to a common ancestor but are unable to trace that genealogical connection step-by-step.

¹² In the context of this study report, vulnerability is discussed in relation to hazards and disasters. Vulnerability is a concept that links the relationship that people have with their environment, to social forces and institutions, and the cultural value that sustain and contest them. “The concept of vulnerability expresses the multidimensionality of disasters by focusing attention on the totality of relationships in a given social situation which constitute a condition that, in combination with environmental forces, produce a disaster” (Bankoff, et al. 2004:11).

severely undermining their capacity to cope from time to time. According to Yared (2003), most of the households in Wollo and Wag Hamra became destitute following severe or repeated crop failures due to natural causes. The situation is, however, slightly different in North Shewa, as households without any or, at best, with only small-sized land, and those which are active male labor deficient constituted the larger proportion of households that have fallen into chronic/long-term poverty.

Similarly, Dessalegn (2003) argues that virulent famine has been the most important causal factor for household/community impoverishment and vulnerability in the major part of the Abbay River Basin in Ethiopia. According to him, most of the households in the northeastern parts of the Amhara Region (North and South Wollo) have not yet recovered from the ‘abject poverty they were thrown into by the famine of mid- 1980s’. In substantiation of this line expounding the poverty level in the stated parts of the Basin, he states: “The millions of peasants who become vulnerable to food shortage each year ... are in large measure, the victims of harvest failures” (Dessalegn, 2003), which are induced by natural hazards. This implies that the growing livelihood vulnerability among farming households appears to increase the extent of rural poverty, and the situation is likely to continue affecting a large proportion of the population residing in the area. According to Mesfin (1984), peasant vulnerability is not necessarily a consequence of environmental hazard, rather a possible outcome of the prevailing social and political practices. As Chambers (1989) indicates, this is because people are not equally exposed to risks as they have socially differentiated capacities to cope with crises.

Available data on poverty and vulnerability also show that there is a strong link between poverty, gender and age, as well as other socio-demographic characteristics of the population in the Abbay River Basin of Ethiopia.

Box 7

Yared (2002) indicates that female-headed households make up a large proportion of the poorest and most vulnerable households in rural areas of North Shewa and South Wollo, both in the Abbay River Basin. He also explains that the living conditions and asset possession of young people is significantly lower as compared to their parents at same age in the past.

Furthermore, a study conducted by the Institute of Development Studies (2002) revealed that 13.8% of the households of the study areas in Wollo are destitute, while a greater proportion of them belong to female-headed households and households headed by old men. These households are identified as victims of poverty mainly due to shortage of labor power to engage in productive activities.

Critical assessment of the situation in the Abbay Basin area in Ethiopia has also shown that wealth and poverty are not distributed equally among various social groups. The chances of being poor or destitute are greater for certain segments of the population basically due to socio-economic differentials among residents of the area. It is, therefore,

possible to state that the likelihood to fall into poverty and the capability to avoid or move out of poverty varies according to someone's position in the prevailing social structure.

Box 8

Farmland is concentrated in the hands of the older generation than the young (CSA, 2003) and the plough farming system continued to marginalize females from the management of the land, even if their right to use the land is preserved upon divorce or death of their husbands.

It is, thus, important to identify as to who is poor and vulnerable in terms of gender, age, household type, occupation, ethnicity/religion and other socio-economic characteristics within the context of the river basin.

Data is virtually absent on the state of vulnerability in the Blue Nile Basin from social, political and ecological perspectives, for which reason this section of the synthesis report had to be omitted.

1.2.5 Social Organization

As stated earlier, the Abbay River Basin covers some parts of Oromia, the whole of Amhara and most parts of Benishangul-Gumuz Regional States in Ethiopia. The populations in the river basin are diverse in socio-cultural terms, which characteristics greatly influence the nature and form of their social organization. Social organization refers to the 'patterning of human interdependence in a given society through the interactions of its members (Schultz and Levenda, 1987). Accordingly, the way people in the basin organize their lives can assume varied forms, as the socio-cultural and ecological setting of particular communities dictates the interactions of their respective members.

Studies indicate that there are two main forms of social organization among the ethnically diversified populations of the Abbay River Basin in Ethiopia. The Nilo-Saharan speaking people who live in peripheral parts of Amhara and Oromia, but in the Whole of the Benishangul-Gumuz Regional States maintain kinship-based social organization, lineage or clan constituting the basic units of the system. On the other hand, the Oromo and Amhara, as well as other minority groups in the Basin maintain a social organization based on patron-client rather than kinship or decent.

Segementary lineage system is the governing principle that guides the social interaction of the Gumuz (Begna), a major Nilo-Saharan speaking group in the Basin (Desalegn, 1988). Thus, kinship rules form the basis of the social organization, in which the clan is the corporate unit with ownership rights to land and other natural resources in the area. The system guarantees equal access to usufruct for each and every member of the clan over resources under the collective ownership of the group. Another study conducted by

Fekadu (1988) also indicates that the socio-political organization of the “Shankillas”, an old-fashioned term referring to the Gumuz, is based on ‘domestic group’ that usually consist of 30 to 100 kin-based households. According to the same source, the Gumuz are ‘the least acculturated’ ethnic group in the country, apparently due to the discriminatory ideology maintained by the neighboring peasant communities, who traditionally consider their food as taboos and avoid interaction with them for fear of being ‘polluted’.

On the basis of studies conducted by Wissleder (1965), Hoben (1973, 2001), Baur (1977), and Pankhurst (1992), the social organization of the agro pastoralists and shifting cultivator in the Abbay Basin differs from that of the peasant communities in the highlands of the Basin, where the household forms the basic unit of production, consumption and exchange. Hoben (2001) indicated that households are the basic units of “social and agro-economic organization” among the Amhara, in which patron-client relationships, rather than kinship ties, play a dominant role in their social interactions.

While various ethno-linguistic and livelihood groups are known to exist in the Blue Nile Basin of the Sudan, no information is unfortunately available in the review report on the social organization of the populations in this basin.

1.2.6 Conflict and Conflict Management

In order to understand the dynamics of conflict and conflict management among the societies in the Abbay Basin of Ethiopia, it is important to identify the main types and levels of disputes and the corresponding customary institutions involved in conflict resolutions. It is important to obtain sufficient data on how inter-group conflicts arise, develop, lead to crisis and are resolved in a given context, and thereby understand the local perceptions of these phenomena and processes. Diversity is an outstanding characteristic of the population of the Abbay Basin in terms of ethnicity, socio cultural value system, livelihood strategy, and the natural environment. This diversity determines the nature of the inter-group conflicts occurring in the Basin and the way in which they are managed and resolved.

Inter-ethnic, inter-community, and sub-group conflicts have been identified as the most common types of conflict taking place in the Abbay River Basin of Ethiopia, which are triggered and aggravated by a multiplicity of contributory factors, mainly over shared natural resources.

Box 9

The most common inter-community conflicts involve farming communities (farmer-farmer), farming and pastoral/agro-pastoral societies (farmer-herders/shifting cultivators), and pastoral communities (herder-herder) (Tesfaye, 2003).

The basin areas of Northeast Wellega, West Gojjam and Benishangul Gumuz are inhabited by multi-ethnic societies. This ethnic and cultural diversity defines the nature of

conflicts and the coping strategies employed among these groups. Historically, there have been persistent conflicts involving the Amhara, Oromo, Agew, and Shinasha peasant communities, each fighting against the Gumuz at different periods of time (Tsega, 2002).

Box 10

Inter-ethnic conflicts between migrant settler communities and the indigenous host populations have been frequent since recent times, following the large-scale settlement programs triggered by the severe drought and famine that hit the northern and north-central highlands in 1984/85, among other parts of the country.

In general, multi-layered inter-group conflicts appear to characterize this part of the the Abbay Basin. On the one hand, the indigenous Gumuz used to enter into conflict with neighboring peasant communities in Oromia and Amhara regions. They have also had frequent conflicts with migrant settlers within Benishangul Gumuz. Conflicts between the peasant communities and the Gumuz practicing shifting cultivation usually arise due to value differences and/or competition over natural resources. Especially, culture-induced disputes were common as the Gumuz were historically despised, discriminated against and enslaved by their neighbors. The Gumuz culture also requires them to kill to marry, and this custom of ‘killing and feuding with outsiders’ used to trigger inter-group conflict (Dessalegn, 1988; Wold-Sellassie; 1997; Fekadu, 1998). Inter-ethnic feuding and communal violence is part of the Gumuz custom as vengeance is done against both the alleged offender and any one of his male relatives (Dessalegn, 1991). Abduction of women for marriage, close clan adultery and evil eye were also said to be the most common sources of conflicts in the Gumuz society.

In the Oromia part of the Abbay Basin (Wellega and Illubabor), disputes also arise between indigenous Oromo and the settler Amhara communities. This conflict constitutes the main form of inter-group conflict in this part of the Basin (Chernet 1988; Assefa 1999, 2002). Here, competition over scarce resource alone cannot explain inter-community conflicts, since it sometimes involves armed violence. Other than that, ethnic extremism, and the politicization of ethnicity at national and local government levels are among the reported contributory factors (Tsega 2002; Asnake 2004).

Conflict management is the theory and practice of resolving conflicts by peaceful means (Woodhouse, 1996). Conflicts are part of social life, and may be fuelled or aggravated by different customs. Much as there are customs that act as causal factors or catalysts of conflicts, there are others that contribute to their resolutions and prevent the collapse or disintegration of the social order (Gluckman, 1973). Accordingly, the societies in the Abbay Basin possess a range of customary mechanisms that they use in the resolution of each type of conflict and its prime causes. The elders’ councils or the ‘*Mitchu*’ institution is one such mechanism employed for the purpose of conflict resolution/prevention in the Western part of the Basin. ‘*Mitchu*’ is a system through which cross-ethnic friendship is established. The ‘*Mitchu*’ institution is believed to have been employed first by the

Oromo to assimilate the Shinasha and Gumuz (Tsega, 2002). In addition to the most widely used 'Mitchu' institution, elders' councils or the 'Gafa' – a magico-religious authority (witchdoctors) is also employed in the settlement of conflict and reconciliation process in the Gumuz society.

Environmentally-induced conflict is a type of conflict that is common among the groups in the Blue Nile Basin of the Sudan. High population density of both human and livestock and the resulting resource degradation have led to competition over land and water, causing the recurrence of confrontations and violent incidents involving herders and cultivators. Furthermore, land expropriation for the development of mechanized rain-fed agriculture underway since the 1960's has been a principal cause for tension and serious conflict between local inhabitants, especially pastoralists and the proprietors of the mechanized farms. The situation has been aggravated by the failure to take into consideration the interest and rights of the population displaced and left without livelihoods as a result of the ventures.

As stated earlier, a prime cause of recurrent inter-group conflict in the Abbay-Blue Nile Basin is observed to be the competition over access to scarce natural resources. Especially is this true of pastoral and agro-pastoral groups and shifting cultivators. Conflicts resulting from competitions over declining resource base can greatly be reduced by introducing joint development projects in contested resource areas in which hostile groups may work together in a peaceful environment. The appropriate development projects in the context of the basin area understudy might involve river-valley based irrigation schemes, compatible with the multi-purpose development program (JMP) for Eastern Nile. .

1.2.7 Development Projects

Agricultural extension programs constitute part of the development interventions implemented in the Abbay Basin of Ethiopia. It was the development policy of the military regime (1974-1991), and has been even more so of the current government in Ethiopia, to enhance agricultural production and productivity by laying heavy emphasis on the provision of green revolution inputs and related education and training to farm households. Thus, the agricultural extension program is at the center of the incumbent government's agricultural development led industrialization policy (ADLI). However, studies (for example, UN Environment Program (1995)) indicate that the application of productive inputs mainly chemical fertilizers, pesticides, and hybrid seeds has had adverse effects on the natural environment, by contributing to soil degradation and loss of plant diversity.

Nevertheless, the biggest impact to the livelihood patterns of the farming population and the environment in the Abbay Basin of Ethiopia resulted from the massive resettlement programs executed by the military government in particular, and the present regime as well, although not on the same scale. Resettlement programs existed under the imperial

rule, but were sporadic and small-scale nonetheless. The Marxist military regime that came in its wake revived the programs in earnest, but never as extensively as it did following the 1984/85 drought and famine, the severest to have hit parts of the country yet. The goals officially claimed were the prevention of famine and the ensuring of food security, thereby overcoming recurrent food crisis. Accordingly, tens of thousands of farm households from the overpopulated, environmentally degraded and drought affected areas of Wollo, Tigray, and North Shewa were relocated in stages to Illubabur, Wellega, and mainly Metekel, all in the Abbay Basin. Being the largest of the host communities and predominantly inhabited by the Gumuz shifting cultivators, the Metekel Zone was a destination for the 82,000 of the 600,000 people resettled in the resettlement scheme known as the Pawe Resettlement Program (Gebre, 2004). The Gumuz population was estimated at 72,000 at the time, and 250,000 hectares of land was designated for the resettlement program, of which 73,000 hectares of land were cleared for cultivation and the establishment of resettlers' villages.

A parallel intervention in the area was the large-scale agro-industrial and infrastructural development program known as the Tana-Beles Project. This was a giant multi-sectoral development program sponsored by the Italian government, which encompassed production and infrastructure components, with a prime focus on the promotion of mechanized agriculture, forestation, livestock and fishery, agro-industry, water supplies, roads, bridges, airport, and education and health. Regardless of its intentions and stated objectives, the Tana-Beles Project proved to be highly ambitious, which made it more likely to fail than succeed. As analysts (Gebre, 2004; Wolde-Sellassie, 2004) put it later, lack of proper planning, responsible management, as well as failure to consult the resettlers and host communities alike predetermined that the exercise would only be short-lived. The collapse of the program in the wake of the withdrawal by the Italians meant that the necessary conditions to ensure sustainability were not met. The practice of collective farming, further complicated by the predominantly backward agrarian structure, produced the wrong environment for the introduction and expansion of mechanized farming. The end result was that the project terminated prematurely, even before the settlers were able to reestablish themselves.

The Gumuz, who were the host population, were probably the ones who had to bear the brunt of the impact caused by the failed project. Neither did the Ethiopian Government nor the Italian Cooperation Project take into consideration the concerns and interests of the indigenous population. Having lost their farmlands, hunting-gathering grounds and fishing sites, the locals no doubt suffered severe consequences on their lives and livelihoods as a result of the program. Besides extreme shocks to their livelihood base, with resulting food insecurity, dispossession of land and access to other critical resources triggered off local resistance, bringing the host community into bloody conflict with the settlers. It is reported (Gebre, 2004) that nine clashes of such scale took place between 1985/86 and 1993/94, claiming many lives as well as property on both sides of the conflict. As if this was not sufficient, the resettlement program also had a heavy toll on the environment, as it was carried out with little consideration for the safety of the natural habitat. Massive deforestation was a single most important characteristic of the resettlement process, with up to 50,000 hectares of land cleared for the establishment of

48 villages and 23,000 hectares of forest land leveled for mechanized agriculture (Viezzoli 1992:68 & Salini Costruttori, 1989:14 as quoted by Gebre, 2004). The loss of forestry resource was further accelerated by the absolute dependence of the settlers on firewood as the source of energy, and the intensification of logging and carpentry in the area as concomitants of the resettlement program. Rain and wind erosion also resulted from the substantial loss of the vegetation cover, causing the already fragile sub-tropical soil in the area to become even more vulnerable to natural forces.

The resettlement program has also been pursued by the existing government since 2003, with an aim to ensure national food security, as a component of the country's Sustainable Development and Poverty Reduction Program (SDPRP). As a departure from the implementation strategy adopted during the military rule, the resettlement program has now taken on intra-regional nature, relocating settlers within their respective ethno-linguistic boundaries. The justification is to prevent the kinds of armed clashes between the settlers and host population, which problems accompanied the resettlement practices of the 1980s. Accordingly, a target was set to resettle as many as 440,000 people over a three-year period, in resettlement sites located mostly in the Abbay Basin. While critics and the donor community are widely skeptical of the intentions and feasibility also of the current resettlement program, its overall impacts on the environment, settlers and the host population has, nevertheless, yet to be investigated.

The Gibe hydro-power project is another development program underway in the Abbay Basin of Ethiopia, with a huge impact on the local population. Displacement of farming and herding populations, denial of access to grazing land and the resultant food shortages are among the hardships suffered by the local people (Kassahun, 2001). The Tiss Abbay II hydro electric power plant is yet another project located on the Abbay River, some 32 km downstream of Lake Tana at a site where the riverbed suddenly drops by approximately 45 meters thus creating the well-known Tiss Issat Water Falls. The hydro-power project is reported to have similarly affected the scenic views of the falls, causing observers and local residents to express concerns about the possible impact on tourism potentials of the area and the revenue from the sector.

The Blue Nile Basin in the Sudan is a densely populated area, where the size of human and livestock population surpasses the carrying capacity of the environment under existing farm and animal production technologies. One of the two major development projects in this area is the Rosseris Dam, where a hydro-power plant is located. Situated in Damazin town, now the capital of Blue Nile State, 500 kilometers southwest of Khartoum, the 280 mw hydro power plant at the dam supplies nearly half of the country's electric power output. In addition, the dam provides irrigation waters to the agricultural scheme of the Gezira Plain. Rosseris and Damazin are the only towns supplied with electricity in the Blue Nile State, leading to the expression of discontents and grievances by the population of the rest of the towns and villages there, who do not benefit from the project. The Sinnar Dam, built by the British commercial companies in 1925, is the oldest and largest development project in the Blue Nile Basin. The dam was constructed mainly to irrigate the Gezira agricultural scheme, for the production of cotton, among other crops, a major export item and foreign exchange earner of the country until recently. The

Gezira scheme accounts for 12% of the total area of cultivated land in the country, and 75% of the domestic cotton production. In addition to cotton, the Gezira scheme also produces food crops for domestic consumption such as sorghum, wheat, and groundnuts.

1.3 The Status of the Available Socio-Economic and Demographic Information in the Abbay-Blue Nile Basin

The socio-economic review study on the Abbay River Basin in Ethiopia provides a satisfactory database on land tenure and related issues, and forms of social organization in the administrative regions and zones of the basin. The review also draws on a number of studies conducted on poverty and vulnerability, especially on the rural population of the Amhara parts of the basin, Wollo and North Shewa in particular. Existing studies on inter-community conflicts and socio-cultural differences between migrant populations and indigenous groups, as well as the consequences that have resulted therefrom in the western part of the basin, particularly in Wallaga and Benishangul Gumuz areas, are also sufficient. However, culture and area specific studies need to be conducted, in order to generate further information on the life style of the different population groups, and the interface between their livelihood patterns, institutions, and the environment, which reference is greatly lacking at the moment. Poverty and vulnerability among the Oromo and the various minority groups in the Benishangul Gumuz areas are also subjects requiring investigation and further understanding.

Although a good deal of data exists on inter-ethnic/inter-community conflicts and conflict management in the Abbay River Basin, information about intra-community conflicts and conflict management is nevertheless limited. Field-based studies are therefore necessary to close the gaps in the existing knowledge base concerning the forms, frequency and causes of disputes at community level including: disputes of interpersonal, intra-household, inter-household and inter generational kinds as well as conflicts between sub-groups such as clans and lineages, and inter-religious disputes and clashes, and problems between denominations of the same religions.

The socio-cultural and ecological impacts of the various government/NGO-sponsored projects/programs need to be assessed likewise. Furthermore, data is hard to come by in regards to the level of community participation in the projects, and public attitude towards on-going development activities initiated by external agents, government or otherwise. Inventory or mapping needs to be carried out as well of the available social, cultural, and environmental capital in the communities which enables to understand the levels of poverty and well being and their dynamics among of the local populations. Another area requiring assessment is the nature and extent of community mobilization, to gain an understanding of the institutional settings necessary for participatory development programs.

Apart from the 1984 and 1994 Population and Housing Census of Ethiopia, most of the other demographic and related surveys do not provide disaggregated or specific information at the local level. As a result, it is difficult to carry out basin-specific, regional or community level analyses of population data in the Abbay River Basin. Hence, undertaking detailed studies such as demographic and health, employment, and migration surveys among the population of the Abbay Basin is very important.

The existing demographic and socio-economic information may help to draw a general picture of the population characteristics in the Abbay River Basin. However, it does not enable making an assessment of the possible impacts or contributions of development initiatives to be undertaken within the framework of Joint Multi-purpose Projects. Therefore, it is necessary to conduct basin-specific surveys to be able to monitor and evaluate prospective development projects.

As indicated several times in the part of the synthesis report on the Blue Nile section of the basin, the socio-economic survey on the Sudan fails to provide the needed information as per the terms of reference (TOR). Primarily, the report does not largely correspond to the outline that is meant to guide the presentation of the content and layout of the review study. As a result of this major drawback, the report is lacking in large quantities of pertinent information on various important issues raised in the TOR. The data gaps are particularly glaring on aspects of the survey pertaining to customary and statutory laws governing access to land and other natural resources, livelihood profile and employment characteristics in rural and urban areas, social and physical infrastructures, gender, poverty and vulnerability indicators, social organization, conflict, conflict management and coping strategies, and development projects impact assessment. The available information such as on population and demographic profile, economic and employment characteristics, and education and health, has not also been compiled and interpreted in a manner that is reflective of the overall situation in the Blue Nile Basin. Therefore, little attempt has been made by way of ensuring that the data is specific and relevant to the circumstances in the basin. In addition, hardly does the review report point to the gaps in literature on the basin, and the studies required if the existing data gaps are to be filled out vis-à-vis the joint multi-purpose development programs for Eastern Nile. Inevitably, the impact of these limitations of the review study is also reflected in the synthesis report, making it difficult to provide cross basin comparative analysis of data.

A serious limitation of the the review report on the Abbay River Basin has to do with the fact that the bulk of the information is almost solely derived from survey reports compiled by the Central Statistical Authority (CSA) of Ethiopia, and undergraduate and graduate level theses produced at Addis Ababa University. As a result, varied sources of data which could have enriched the review report have apparently not been searched and consulted. In this regard, highly pertinent bodies of literature produced by institutions sponsoring or conducting developmental studies focusing on the Nile Basin are virtually overlooked.

The University of Bergen (UiB) in Norway is a single most important institution with a strong research interest in the Nile Basin countries, dating back to the 1960s. The

University runs a Nile Area Program that has a multi-disciplinary research interest ranging from the humanities to social and natural sciences and health and law. A list of recent research publications on Nile Basin Cooperation which are worth reviewing as additional source material for the Abbay-Blue Nile basin study has been attached at the end of the annotated bibliography for further reference.

The Nile Basin Discourse (NBD) is the second very important institution based in Entebbe, Uganda, carrying out research as a major program component in areas of interest like action research on benefit-sharing and studies on multi-stakeholder dialogue. Attached at the end likewise is relevant bibliography from the Nile Basin Discourse.

Other institutions to be mentioned in this connection include the Nile Basin Initiative (NBI), the Center for Development Studies (CDS) of the University of Bergen, and the National Center of Competence in Research (NCCR) – Research Partnerships for Mitigating Syndromes of Global Change (a research program implemented by Swiss National Science Foundation (SNSF), all of which possess significant research interest and wide experience on a range of issues pertaining to the Nile Basin Countries.

A major relevant publication, produced by Terje Tvedt (2000) under the title ‘The River Nile and its Economic, Political, Social and Cultural Role, An Annotated Bibliography’ constitutes a vast body of reference spanning 541 pages and encompassing the titles of 3486 books, articles, and reports, as well as 1532 entries of annotation about the Nile region. Also highly valuable as part of the data base on the Abbay-Blue Nile basin are the works by such prolific writers as Waterbury John, Whittington Dale, David Grey, and Claudia Sadoff.

Annotated Bibliography of the Abbay-Blue Nile Basin

I Customarily and Statutory Laws, Institutions and Organizations Governing Access to Utilizations of Natural Resources in the bbay Basin.

Ashenafi Tafari (1974). *Madaria* land rights in Wollo Provinces: Their Consequence for Tement all Waraf Cultivation. Madison University of Wisconsin, Land Tenure Center, 299.

Aklilu Kidanu and Tadesse Alemu (1994). "Rapid Population Growth and Access to Farming: Coping Strategies in Two Peasant Associations in North Shewa". In *Proceedings of Land Tenure and Land Policy in Ethiopia After the Derg*. Proceedings of the Second Workshop on Land Tenure Workshop held at the Graduate School Conference Hall, 5-6 May 1994. Edited by Desalegn Rahmento. Addis Ababa Land Tenure Project, Institute of Development Research and Trondheim, Center for environment and Development , University of Trondheim. IDR Proceeding No.16.

Amhara National Regional State (2000). Proclamation Issued to Determine the Administration and Use of Rural Land in the Region. Proclamation No 46/2000 Zikre Hig. Bahir Dar.

The proclamation cleanly defines the Amhara regional states the Administration land use and use right of rural land areas, communal holding of the rural area.

Bairu Tafla; (1990). Some Aspects of Land-Tenure and Taxation in Salale under Ras Darge, 1871-1900. *Journal of Ethiopia Studies*, Vol XII, No. 2, pp.1-9 .

The study reveals about the Salale oromo Community, with the particular emphases on land, Tenure system after they were forcefully incorporated to Ethiopia empire state.

Dejen Negassa (2001). The Implementation of State Policy on Land Pressure and Intra-Household Relation: The Case of South Wollo. MA Thesis in Social Anthropology, AAU.

Gizachew Abagaa (1994). "Tenure Issue in Coffee Growing Areas: A Case Study in Manna and Gomma Wereda". In *Proceedings of Land Tenure and Land Policy in Ethiopia After the Derg*. Proceedings of the Second Workshop on Land Tenure Workshop held at the Graduate School Conference Hall, 5-6 May 1994. Edited by Desalegn Rahmento. Addis Ababa Land Tenure Project, Institute of Development

Research and Trondheim, Center for environment and Development , University of Trondheim. IDR Proceeding No.16.

Hoben, Allan (1966). Land Tenure and Social Mobility among the Amhara.

Mehret Ayenew (1994). The Ketto Resettlement. A Brief Comparative Survey of the Land Tenure System 1985/86 and 1993. IDR Proceeding No. 6.

Mengistu Woube, (1986). Problems and Land reform Implementation in Rural Ethiopia. A case study of Dejen and Waolmera District, Department of Human Geography Uppsala University, UPPSALA.

Mirgassa Kaba (1994). "Land Tenure and Resource Management in West Shewa Oromo Community". In *Proceedings of Land Tenure and Land Policy in Ethiopia After the Derg*. Proceedings of the Second Workshop on Land Tenure Workshop held at the Graduate School Conference Hall, 5-6 May 1994. Edited by Desalegn Rahmento. Addis Ababa Land Tenure Project, Institute of Development Research and Trondheim, Center for environment and Development, University of Trondheim. IDR Proceeding No.16.

The report traces the impact of pre and post *Derg* land tenure changes on local resource management practice in an Oromo Community in West Shewa.

Stahl, M (1977). *New Seeds in Old Soil: A Study of the Land Reform Process in Western Wollega, Ethiopia, 1975-1976*. Uppsala: Scandinavian Institute of African studies.

Tefari Abate (1994). "Land Scarcity and Landlessness in North Shewa: A Case Study from Wayu and Anget Mewgiya Peasant Association". In *Proceedings of Land Tenure and Land Policy in Ethiopia After the Derg*. Proceedings of the Second Workshop on Land Tenure Workshop held at the Graduate School Conference Hall, 5-6 May 1994. Edited by Desalegn Rahmento. Addis Ababa, Land Tenure Project, Institute of Development Research and Trondheim, Center for environment and Development , University of Trondheim. IDR Proceeding No.16.

The paper generally talks about the way independent household can be established to main principle involved in access to land and the effect of it has on local social organization and the reason.

Tessema Chekune Awoke (1994). "Land Tenure Issue is High Potential Coffee Growing Areas: An Overview in South Western Ethiopia (Kaffa, Illubabor and Wallaga)". In *Proceedings of Land Tenure and Land Policy in Ethiopia After the Derg*. Proceedings of the Second Workshop on Land Tenure Workshop held at the Graduate School Conference Hall, 5-6 May 1994. Edited by Desalegn Rahmento. Addis Ababa Land

Tenure Project, Institute of Development Research and Trondheim, Center for environment and Development, University of Trondheim. IDR Proceeding No.16.

Tiruwork Tizazu (1998). Access to Resource and Productivity of Female-Household: The Case of East Gojjam and North Shoa Zone. MA Thesis in Regional and Local Development Studies, AAU. .

The study investigates problem encountered by female-headed household in the area of agricultural production and access to productive resource.

Yared Amare (1995). Land Redistribution and Its Implication for Peasant on Differentiation in Wogda, North Shewa. Ethiopian Journal of Development Research, Vol. 17 No. 1.

The study describes the nature of land allocation practice in the locality of Wogda, North Shewa. It focuses on the economic determinants of food security and nutrition in the area.

Yeraswork Admassie (2004). Indigenous Common property Resource Management: Cases from Wollo and North Shewa.

The paper describes and analysis the traditional management and recent advertises of common property resource in four localities of Central Ethiopia each in North Wollo, South Wollo, Menz and Tagulat.

Yohannes Habtu (1994). "Land Access and Rural Labor Market Constraints: A case Study of Northern Shoa". In *Proceedings of Land Tenure and Land Policy in Ethiopia After the Derg*. Proceedings of the Second Workshop on Land Tenure Workshop held at the Graduate School Conference Hall, 5-6 May 1994. Edited by Desalegn Rahmento. Addis Ababa Land Tenure Project, Institute of Development Research and Trondheim, Center for environment and Development , University of Trondheim. IDR Proceeding No.16.

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II Institutions and Organizations Operating in the Abbay River Basin

Abera Megerssa (2001). The Assessment of the Status and AIDS Education Program in the Second Cycle Primary School of the Oromia Region (MA in Curriculum and Instruction) AAU.

This study assesses the status of AIDS education in the second cycle primary school of Oromia Region.

Getahun Hailemariam (1998). Prototype Community Health Information Retrieval System for Jimma Zone: A Case Study of Jimma Institute of Community Health. MA in Information Science, AAU. .

The study analysis the existing system and propose the design and development of appropriate commuter base information system.

Muluaem Bassie (2001). Institutional and Administrative Capacity for Development: The Case of Benishangul Gumz National Regional State Efforts, Problems and Prospects. MA Thesis in Regional and Local Development Studies, AAU. .

The study focused on achievement and performance of the region.

III Demographic and Socio-Economic Profile

3.1 Demography Population Characteristics (Abbay Basin)

3.1.1 Fertility

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol I: Part III. Statistical Report, Central Statistical Authority: Addis Ababa, pp 79-91.

CSA (1995). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

These reports contain summary measures (crude birth rate, general fertility rate and total fertility rate); number of women in childbearing age, total and mean of children ever born, number of children born during the 12 months preceding the census, and age specific fertility rates by age group of women and place of residence at regional and zone level for the year 1994.

CSA (1998). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

These reports contain number of women in childbearing age, total and mean number of children ever born, number of children born during the 12 months preceding the census, age specific fertility rates, parity progression ratio by age group of women and place of residence at regional and zonal levels for the year 1994. The reports also contain adjusted TFR, CBR, GFR by place of residence at regional and zonal levels. Differentials in TFR by some selected background characteristics of mothers were also presented in the reports.

CSA (1999) Report on the 1998 Health and Nutrition Survey, Central Statistical Authority: Addis Ababa.

These reports contain total children ever born and number of births in the last 12 months preceding the survey, number of women in reproductive age by age group along with age specific fertility rates, total fertility rate, general fertility rate and mean number of children ever born by place of residence at regional level for the year 1998.

CSA(2000) Ethiopia Demographic and Health Survey 2000, Central Statistical Authority: Addis Ababa.

This report contains total fertility rate, mean number of children ever born and percentage of currently pregnant women at regional level for the year 2000.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Illubabor Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Keffa Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wellega Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wello Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gojjam Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gonder Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Shewa Region, Central Statistical Authority: Addis Ababa.

These reports contain reported crude birth rate, general fertility rates, age specific fertility rates and cumulative as well as completed fertility at regional level for the year 1984. Also given in the report is estimated age specific fertility rates and total fertility rate at regional level. In addition, the report presents fertility differentials at regional level.

3.1.2 Mortality

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol I: Part III. Statistical Report, Central Statistical Authority: Addis Ababa, pp 93-107.

CSA (1995). The 1994 Population and Housing Census of Ethiopia. Results for Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for SNNP Region. Vol. I: Part III. Statistical Report, Central Statistical Authority: Addis Ababa.

These reports contain estimated infant and child mortality rates and life expectation at birth derived using the Trussell Method by sex at regional and zonal levels classified by rural and urban place of residence for the year 1994. Also given are number of children ever born and surviving by sex age group of mothers classified by urban and rural place of residence at regional and zonal levels.

CSA (1998). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa, .

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Gambella Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1998). The 1994 Population and Housing Census of Ethiopia. Results for SNNP Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

These reports contain children ever born and surviving, estimates of infant and childhood mortality levels along with implied life expectancy at birth by sex and urban and rural place of residence at regional and zonal levels for the year 1994. In addition, abridged life table for male and female population was also constructed at regional level.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Illubabor Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Keffa Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wellega Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Shewa Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gonder Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gojjam Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wello Region, Central Statistical Authority: Addis Ababa.

These reports contain number of deaths by sex and age group, crude death rates, age specific death rates by sex and urban and rural place of residence at regional level for the year 1984. Abridged life table, children dead and surviving, estimates of infant and childhood mortality levels along with implied life expectancy derived using different methods are also provided in the reports.

3.1.3 Population Size, Age and Sex Structure and Place of Residence

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol I: Part I. Statistical Report, Central Statistical Authority: Addis Ababa, pp 13-26.

CSA (1995). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa, pp 11-16.

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

These reports contain population size and distribution by age and sex at regional, zonal, wereda and kebele levels classified by rural and urban place of residence for the year 1994. The reports indicate actual and projected population size on the basis of the census enumeration. These reports also contain sex ratios by five year age groups and place of residence at regional level for the year 1999.

CSA (1998). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

These reports contain population size and percentage distribution by age and sex at regional and zonal levels classified by rural and urban place of residence for the year 1994. The reports also provide projected population size for each of the years during 1995 to 2030 for total population classified by sex and place of residence. Projected population by five year age group is also provided for 1995 to 2000 every year, but every five years then after.

CSO (1976 to 1984) and CSA (1985 to 2004). Statistical Abstract - Ethiopia. Central Statistical Authority: Addis Ababa.

The statistical abstracts that are issued every year by the Central Statistical Office/Authority provide total population size by sex for each of the weredas, zones and regions in the country. They also provide population density for each wereda, zone and region on the basis of projection made using the most recent census.

CSA (2000). Analytical Report on: The 1999 National Labor Force Survey, Central Statistical Authority: Addis Ababa.

CSA (2002). Ethiopia Child Labor Survey Report, Central Statistical Authority: Addis Ababa.

These reports contain sex ratios by urban and rural place of residence at regional level for the year 2000.

CSA (2004). Report on Urban Bi-Annual Employment Unemployment Survey October 2003 1st Year Round 1, Central Statistical Authority: Addis Ababa.

CSA (2004). Report on Urban Bi-Annual Employment Unemployment Survey October 2003 1st Year Round 2, Central Statistical Authority: Addis Ababa.

These reports contain sex ratios for urban parts at regional level for the year 2000.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gonder Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gojjam Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wello Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wellega Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Keffa Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Illubabor Region, Central Statistical Authority: Addis Ababa.

These reports contain population size and distribution by age and sex at regional levels classified by rural and urban place of residence for the year 1984. Total Population of urban rural areas of Awrajas, weredas and kebele or Peasant Associations (PAs) are also provided in the report. The reports, moreover, indicate actual and projected distribution of population size by age, sex and place of residence. These reports also contain sex ratios by five year age groups for urban and rural areas

at regional level for the year 1984. Sex ratios for different religions groups are also given.

3.1.4 Ethnic and Religious Composition

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol I: Part III. Statistical Report, Central Statistical Authority: Addis Ababa, pp170-246, 327-369.

CSA (1995). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

These reports contain the ethnic distribution population by sex and place of residence at regional and zonal levels. The report also present religious distribution of population by age group, sex, place of residence at regional level. Religious distribution by sex and place of residence is also given at zonal and wereda levels.

CSA (1998). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol I. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

These reports contain percentage distribution of population by major ethnic groups (500 or more) and religions classified by sex and place of residence at regional level. Also presented in the report is percentage distribution of population by major ethnic groups and religious affiliation at zonal levels.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Illubabor Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Keffa Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wellega Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wello Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gojjam Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gonder Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Shewa Region, Central Statistical Authority: Addis Ababa.

These reports contain numerical and percentage distribution of major ethnic groups (10,000 population or more) and religion affiliations by place of residence at regional level and some of the towns with large population size.

3.1.5 In- and Out-Migration

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol I: Part III. Statistical Report, Central Statistical Authority: Addis Ababa, pp 10-73.

CSA (1995). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

These reports contain migration status (i.e. level of migration) and length of residence at place of enumeration by sex, age group and place of residence at regional level for the year 1994.

CSA (1998). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

These reports contain percentage distribution of migrants and years of last arrivals of migrants by sex and place of residence at regional and zonal levels for the year 1994. Also given are in- migration rates by age group; forms of migration and area of previous residence by length of residence at regional level .In addition, the reports provided socio-economic and demographic characteristics of migrants and non-migrants (e.g. age, sex, marital status, education and economic participation) at regional level for the year 1994.

CSA (1999). Statistical Report on ‘The 1999 National Labour Force Survey’, Central Statistical Authority: Addis Ababa.

This report contains migration status and duration of residence by sex and place of residence at regional and zonal levels for Tigray, Amhara, Oromiya and SNNP regions for the year 1999. Also given are the size of recent migrants by current and previous region of residence classified by sex and place of residence; reasons for migration by sex and place of residence at region level and zonal levels for some of the selected regions (Tigray, Amhara, Oromiya and SNNP regions). The reports also indicate actual number and percentage distribution of respondent by migration status.

CSA (2000). Analytical Report on The 1999 National Labour Force Survey, Central Statistical Authority: Addis Ababa.

This report contains volume and level of all migration and recent migrants by sex, urban and rural place of residence at regional level for the year 1999. It also contains number of recent in- and out- migrants by sex, as well as form and type of migration at regional level. Percentage distribution of recent migrants’ reason for move is also given by sex for each of the regions included in the study.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Illubabor Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Keffa Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wellega Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wello Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gojjam Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gonder Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Shewa Region, Central Statistical Authority: Addis Ababa.

These reports contain the level of migration by sex and place of residence; stream of in- and out- migration rates by place of residence and sex. It also presents forms of migration by sex and place of origin for the year 1984. Information, however, is available at the then administrative region level.

3.1.6 Urban centers by population and primacy

CSO (1976 to 1984) and CSA (1985 to 2004). Statistical Abstract - Ethiopia. Central Statistical Authority: Addis Ababa.

The statistical abstracts that are issued every year by the Central Statistical Office/ Authority provide total population size by sex for each of the towns in the country.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Illubabor Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Keffa Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wellega Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wello Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gojjam Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gonder Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Shewa Region, Central Statistical Authority: Addis Ababa.

These reports contain the population size of all urban centers by sex, and major towns by age and sex.

3.2 Livelihood Profile/Employment Characteristics

3.2.1 Abbay Basin

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol I: Part III. Statistical Report, Central Statistical Authority: Addis Ababa, pp 279-299.

CSA (1995). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for SNNP Region. Vol. I: Part III. Statistical Report, Central Statistical Authority: Addis Ababa.

These reports contain major occupational and industrial distribution of the economically active population including skilled and unskilled labor in agriculture, livestock, hunting and fishing, as well as jobs taken as primary activity by sex, age group and place of residence at regional level for the year 1994. The reports also contain minor occupational and industrial distribution of the economically active population by sex and place of residence at regional level.

CSA (1998). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

These reports contain major occupational distribution and major industrial distribution of the economically active population by sex and place of residence at regional and zonal levels for the year 1994.

CSA (1999). Statistical Report on: The 1999 National Labor Force Survey, Central Statistical Authority: Addis Ababa.

These reports contain major occupational distribution and major industrial distribution of the economically active population including skilled and unskilled labor in agriculture, livestock, hunting and fishing, as well as jobs taken as primary activity by sex, age group and place of residence at regional and zonal level for Tigray, Amhara, Oromia and SNNP regions for the year 1999. The reports also contain minor occupational and industrial distribution of the economically active population by sex and place of residence at regional level.

CSA (2000). Analytical Report on: The 1999 National Labor Force Survey, Central Statistical Authority: Addis Ababa.

These reports contain major occupational and industrial distribution of the economically active population including skilled and unskilled labor in agriculture, livestock, hunting and fishing as well as jobs taken as primary activity by sex, age group and place of residence at for the year 1994. The reports also contain minor occupational and industrial distribution of the economically active population by sex and place of residence at regional level.

CSA(2003) Ethiopian Agricultural Sample Enumeration, 2001/02 Result for Benishangul- Gumuz Region, Statistical Report on Socio-Economic Characteristics of the Population in Agricultural Household, Land Use, Area and Production of Crops, Part I. Central Statistical Office, Addis Ababa.

CSA(2003) Ethiopian Agricultural Sample Enumeration, 2001/02 Result for Gambella Region, Statistical Report on Socio-Economic Characteristics of the Population in Agricultural Household, Land Use, Area and Production of Crops, Farm Management Practice, Livestock and Farm Implement. Central Statistical Office, Addis Ababa.

CSA(2003) Ethiopian Agricultural Sample Enumeration, 2001/02 Result for Oromia Region, Statistical Report on Socio-Economic Characteristics of the Population in Agricultural Household. Central Statistical Office, Addis Ababa.

CSA(2003) Ethiopian Agricultural Sample Enumeration, 2001/02 Result for SNNP Region, Statistical Report on Socio-Economic Characteristics of the Population in Agricultural Household. Central Statistical Office, Addis Ababa.

These reports contain the type of holding (mixed, crop only and livestock only) of agricultural holders by sex and place of residence at regional, zonal and wereda level for the year 2001/01. The reports also show working status and reasons for not working among the population in the agricultural households by sex and place of residence. They also show employment status and type of working by sex and place of residence at regional, zonal and wereda level.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Illubabor Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Keffa Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wellega Region, Central Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wello Region, Central Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gojjam Region, Central Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gonder Region, Central Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Shewa Region, Central Authority: Addis Ababa.

These reports contain the distribution of working age population by economic participation status and activity rates, unemployed population and unemployment rates by age group and sex at regional level and major urban centers. The reports also present numerical and percentage distribution of employed and unemployed persons and reasons for not engaging in the labor force by sex and place of residence at regional levels and some of the major urban towns for the year 1984. The reports also contain employment status, occupation and industrial characteristics of the

employed people by educational level; and the age as well sex characteristics of the unemployed population.

3.2.2 Blue Nile Basin

Hayat Abdullah Bakhiet El Imam (2005). The Incidence of Rural Poverty and sustainable Human Development Policies in Sudan: A case study of El Zeiab Rural Area., Ph.D. Dissertation, University of Khartoum.

The main objective of the study is to explain the causes and effect of rural poverty in Sudan, and to show its impact on population, so as to suggest policy options that would be helpful for reducing rural poverty and facilitating sustainable human development in the rural areas of Sudan. The study argues that in the last ten years (1992-2002) Sudan has witnessed an accelerating spread of poverty, in such a way that individuals and households are becoming unable to satisfy their basic needs. This study has been of particular relevance for the reason that the increasing rate of rural poverty is already reaching unacceptable levels. Indeed, poverty is contradictory to human dignity and rights. And it bears negative effect on human development and individual achievements. It also increases social inequality and political instability, and therefore leads to the displacement of people. The study adopted the following hypothesis:

- (1) There is a relationship between development policies and the spread of poverty in rural areas.
- (2) Development policies in Sudan have mostly favored the centre. These essential (top-down) policies have been principal literature of poverty in rural Sudan.
- (3) The rural poor are not integrated into the development process, and do not participate in the making of decisions that affect their own lives.
- (4) The national political, social and economic policies have concentrated on investment, finance and social services in urban areas, leading to greater unbalanced development, and increasing migration from rural to urban areas.

Different methods of data collection are used. The UNDP Human Development indicators of poverty, such as low income and deterioration in primary health care and basic education were used to show the incidence of rural poverty on population.

The study concluded that in all successive government of Sudan, before and after independence 1956, has failed to inst sufficiently in the rural areas. They concentrated on investment (financial and social services, such as primary health care and basic education) in urban areas, neglecting rural areas. This situation has led to greater imbalance in development, has pushed the rural population to migrate to urban areas, searching or better opportunities of employment and welfare live. It also argues that top – bottom development policies in Sudan have not been successful for a number of institutional and structural reasons. These policies have been an important reason for poverty. A truly sustainable human development policy for rural areas implies the need for (bottom- up) approach so as to enable the rural poor to analyze their own poverty and design heir own agenda for fighting poverty. Poor people in rural areas have-not

participate in decision-making, and they have not been integrated in the development process.

Al Hadi Ibrahim Osman (1999). Some Aspects of Small Farmers Credit Question: The Case of Singa. Msc. Thesis, University of Khartoum.

The main goal of the thesis is to study the credit system in rural areas, and the relationship between Shail lenders, the Agricultural bank, and the small farmers. The study also seeks to investigate the practice of shail system and its effects on rural production process and to evaluate the performance of the ABS concerning credit provision and other services.

The study holds the hypothesis that the flourishing and the persistence of Shail relations in rural Sudan and the lending behavior of the ABS are reflection of the capitalist system and the inherent urban biased planning that serve the interest of the dominant socio-economic groups at the expense of the rural masses.

The study proved that traditional farming is no longer subsistent, as it has been thought of, and small farmers have become more responsive to the market demands under the policy of free market and liberalization adopted by the government. Farmers no longer borrow to meet consumption needs or paying for social and ceremonial obligation as before. Most of the credit directed to investment in agriculture. Shail lenders are dominant in rural financing markets. The ABS is biased for urban merchants vis-à-vis rural farmers and thus did not replace the traditional Shail system.

The study recommended the full democratization of economic and social life, the provision of basic infrastructures and social services.

3.3 Social and Physical Infrastructure

3.3.1 Literacy and Education (Abbay Basin)

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol I: Part III. Statistical Report, Central Statistical Authority: Addis Ababa, pp 10-158.

CSA (1995). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

These reports contain status of school attendance and level of schooling by age group, sex and place of residence at regional level; and status of school attendance and level

of schooling by sex and place of residence at zone level for the year 1994. They also contain gross and net enrolment ratios in primary and secondary schools by sex and place of residence at regional, zonal and wereda levels. The reports, moreover, provide the distribution of population by literacy status and highest grade completed by sex and place of residence at regional, zonal, wereda levels.

CSA (1998). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

These reports contain status of school attendance status distribution, gross and net enrolment rates by sex and place of residence at regional and zonal levels for the year 1994. The reports also contain the distribution of those currently attending school by age, sex, grade and place of residence and also show school progression at regional level by sex and place of residence. Age-sex specific enrolment rates as well as gross and net enrolment rates are also given by place of residence at regional level for the year 1984. The reports also show percentage distribution of population by literacy status, and highest grade completed across sex and place of residence at regional and zonal levels.

CSA (2000) Ethiopia Demographic and Health Survey 2000, Central Statistical Authority: Addis Ababa.

This report contains literacy status and highest level of schooling at region level all persons age five and above living in sampled households for the year 2000.

CSA (1999). Statistical Report on 'The 1999 National Labor Force Survey', Central Statistical Authority: Addis Ababa.

CSA (2000). Analytical Report on the 1999 National Labor Force Survey, Central Statistical Authority: Addis Ababa.

These reports contain literacy status and highest grade completed of literate population by sex at region and zonal level for Tigray, Oromia, Amhara and SNNP regions in 1999.

CSA (2003). Ethiopian Agricultural Sample Enumeration, 2001/02 Result for Benishangul- Gumuz Region, Statistical Report on Socio-Economic Characteristics of the

Population in Agricultural Household, Land Use, Area and Production of Crops, Part I. Central Statistical Office, Addis Ababa.

CSA (2003) Ethiopian Agricultural Sample Enumeration, 2001/02 Result for Amhara Region, Statistical Report on Socio-Economic Characteristics of the Population in Agricultural Household, Land Use, Area and Production of Crops, Farm Management Practice, Livestock and Farm Implement. Central Statistical Office, Addis Ababa.

CSA (2003). Ethiopian Agricultural Sample Enumeration, 2001/02 Result for Oromia Region, Statistical Report on Socio-Economic Characteristics of the Population in Agricultural Household. Central Statistical Office, Addis Ababa.

These reports contain literacy status and level of education of agricultural household population by sex, place of residence and holding status at regional level for the year 2001/02. The reports also contain proportion literate by sex and place of residence at regional, zonal and wereda levels.

CSA (1996) Report on the Year 1996 Welfare Monitoring Survey, Volume I. Statistical Bulletin 205, Central Statistical Authority, Addis Ababa, pp 51-73.

This report contains literacy rate, gross and net enrollment ratios, and school drop-outs by sex, distance to the nearest primary/secondary school of households in rural areas at regional level and some selected urban centers for the year 1996

CSA (1998) Report on the 1998 Welfare Monitoring Survey, Statistical Bulletin 224, Central Statistical Authority, Addis Ababa, pp 91-122.

This report contains literacy rates, gross and net enrollment ratios, level of schooling and distance to the nearest primary school by sex and for rural areas at regional and zonal level and for some selected urban centers for the year 1998

CSA (2000). Report on the 2000 Welfare Monitoring Survey, Statistical Bulletin 259, Central Statistical Authority, Addis Ababa. pp 201-247

This report contains literacy rates, gross and net enrollment ratios, level of schooling and distance to the nearest primary school by sex at regional and zonal levels, as well as selected urban centers for the year 2000.

CSA (2004). Welfare Monitoring Survey, Statistical Report on Basic Population Characteristics: Education, Health, Nutritional Status and Child Care. Statistical Bulletin 339-B, Central Statistical Authority, Addis Ababa.

This report contains literacy rates, highest grade completed, gross and net enrollment ratios, and type of school by sex and place of residence by sex and place of residence at regional level for the year 2004

CSA (2003-2004) Report on Urban Bi-Annual Employment Unemployment Survey Round 1 (2003) and Round 2(2004), Central Statistical Authority: Addis Ababa.

These reports also contain literacy status and highest grade completed by sex for urban areas at regional level.

CSO (1985) Rural Labor Force Survey, 1981-1982, Statistical Bulletin 51, Central Statistical Office, Addis Ababa

CSO (1992) Rural Labor Force Survey, 1987/88, Statistical Bulletin 108, Central Statistical Office, Addis Ababa

These reports contain literacy status and level of education of population by sex at regional levels for the year 1981 and 1992, respectively.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Illubabor Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Keffa Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wellega Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wello Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gojjam Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gonder Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Shewa Region, Central Statistical Authority: Addis Ababa.

These reports contain age-sex specific enrolment rates gross and net enrolment rates by place of residence at regional level for the year 1984. The reports also contain numerical and percentage distribution of population by school attendance status and sex for major urban centers with population size of 10,000 and above.

Draft

3.3.2 Occupation (Abbay Basin)

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol I: Part III. Statistical Report, Central Statistical Authority: Addis Ababa, pp 279-289.

CSA (1995). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.

These reports contain major occupational distribution by sex, age group and place of residence at regional level and minor occupational distribution by sex and place of residence at regional level for the year 1994.

CSA (1998). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol . II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.

These reports contain major occupational distribution by sex and place of residence at regional and zonal levels for the year 1994.

CSA (1999). Statistical Report on: The 1999 National Labour Force Survey, Central Statistical Authority: Addis Ababa.

This report contains major occupational distribution by sex and place of residence at regional and zonal levels for the year 1999.

CSA (2000). Analytical Report on: The 1999 National Labour Force Survey, Central Statistical Authority: Addis Ababa.

This report contains major occupational distribution by sex and place of residence at regional level for the year 1999.

CSA(2003-2004) Report on Urban Bi-Annual Employment Unemployment Survey Round 1(2003) and Round 2(2004), Central Statistical Authority: Addis Ababa.

This report contains major occupational distribution by sex for urban areas at regional level for the year 2004.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Illubabor Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Keffa Region Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wellega Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wello Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gojjam Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gonder Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Shewa Region, Central Statistical Authority: Addis Ababa.

These reports contain distribution of economically active population by major occupation and industry, sex and place of residence at regional levels for the year 1984

3.3.3 Health Facilities (Abbay Basin)

CSO (1976 to 1984) and CSA (1985 to 2004). Statistical Abstract - Ethiopia. Central Statistical Authority: Addis Ababa.

The statistical abstracts that are issued every year by the Central Statistical Office/ Authority also provide the total number of hospitals, health centers, and clinics; as well as total number of medical personnel at regional level.

CSA (1996). Report on the Year 1996 Welfare Monitoring Survey, Volume I. Statistical Bulletin 205, Central Statistical Authority, Addis Ababa, pp 32-38.

This report contains distribution of households according to type of health facility consulted, distance to the nearest health facilities, use of health facilities in rural areas at regional level and some selected urban centers for the year 1996

CSA (1998). Report on the 1998 Welfare Monitoring Survey, Statistical Bulletin 224, Central Statistical Authority, Addis Ababa, pp 48-70.

This report contains distribution of households according to incidence of health consultation, personnel consulted, distance to the nearest health facilities, and use of health facilities in rural areas at regional and zonal levels as well as in some selected urban centre for the year 1996.

CSA (2000). Report on the Year 2000 Welfare Monitoring Survey, Volume I. Statistical Bulletin 259, Central Statistical Authority, Addis Ababa. pp 255-274

This report contains distribution of households according to incidence of health consultation, frequency of visits, distance to the nearest health facilities, use of health facilities at regional and zonal level as well as some selected urban centers for the year 2000

CSA (2004). Welfare Monitoring Survey, Statistical Report. Indicators on Living Standards, Accessibility, Household Assets, Food Security and HIV/AIDS. Statistical Bulletin 339-C, Central Statistical Authority, Addis Ababa, pp 21-120.

This report contains distribution of households according to distance to the nearest health facilities (health post, clinic, health center, hospital and pre/post natal care), use of health facilities and reason for not using health facilities by place of residence at regional level for the year 2004.

3.3.4 Access to Water and Sanitation (Abbay Basin)

CSA (1996). Report on the 1996 Welfare Monitoring Survey. Statistical Bulletin 205, Central Statistical Authority, Addis Ababa, pp 110-129

This report contains distribution of households according to source of drinking water, toilet facility and method of waste disposal in rural areas at regional level and some selected urban centers for the year 1996.

CSA (1998). Report on the 1998 Welfare Monitoring Survey, Statistical Bulletin 224. Central Statistical Authority, Addis Ababa, pp 170-188

This report contains distribution of households according to source of drinking water, and toilet facility in rural areas at regional and zonal levels and some selected urban centers for the year 1998.

CSA (2000). Report on the 2000 Welfare Monitoring Survey, Volume II Statistical Bulletin 259, Central Statistical Authority, Addis Ababa, pp 209-210, 221-228

This report contains distribution of households according to source of drinking water, toilet facility and method of waste disposal at regional and zonal levels, and some selected towns for the year 2000.

CSA (2004)Welfare Monitoring Survey, Statistical Report. Indicators on Living Standards, Accessibility, Household Assets, Food Security and HIV/AIDS. Statistical Bulletin 339-C, Central Statistical Authority, Addis Ababa, pp 123-131, 150-161

This report contains distribution of households according to distance to the nearest drinking water during dry and rainy seasons, use of facilities and reasons for not using facilities by place of residence at regional level for the year 2004. The report also shows the distribution of households by source of drinking water, and type of toilet facilities by place of residence at regional level.

3.3.5 Access to all weather roads (Abbay Basin)

CSA (2004). Welfare Monitoring Survey, Statistical Report. Indicators on Living Standards, Accessibility, Household Assets, Food Security and HIV/AIDS. Statistical Bulletin 339-C, Central Statistical Authority, Addis Ababa, pp 21-120.

This report contains distribution of households according to distance to the nearest all weather and dry weather roads, use of facilities and reasons for not using facilities by place of residence at regional level for the year 2004.

3.3.6 Access to markets (Abbay Basin)

CSA(2004)Welfare Monitoring Survey, Statistical Report. Indicators on Living Standards, Accessibility, Household Assets, Food Security and HIV/AIDS. Statistical Bulletin 339-C, Central Statistical Authority, Addis Ababa, pp 21-120.

This report contains distribution of households according to distance to the nearest food market, use of facilities and reasons for not using the facilities by place of residence at regional level for the year 2004.

3.3.7 Access to Credit, Extension and veterinary Services (Abbay Basin)

CSA (2004). Welfare Monitoring Survey, Statistical Report. Indicators on Living Standards, Accessibility, Household Assets, Food Security and HIV/AIDS. Statistical Bulletin 339-C, Central Statistical Authority, Addis Ababa, pp 21-120.

This report contains distribution of households according to distance to the nearest credit and extension service provision centers, use of the facilities and reasons for not using the facilities by place of residence at regional level for the year 2004.

3.3.8 Gender Indicators (Abbay Basin)

CSA (2000). Ethiopia Demographic and Health Survey 2000, Central Statistical Authority: Addis Ababa.

This report contains literacy status and highest level of schooling; median age at first marriage; proportion of women who suffered night blindness, nutritional status; knowledge, ever use and current use of contraceptives; Tetanus toxoid coverage among women with recent birth and vaccination coverage among children aged 12-23 months; distribution of immunized children and vitamin A administration at regional level the year 2000.

CSA (2004). Welfare Monitoring Survey, Statistical Report. Indicators on Living Standards, Accessibility, Household Assets, Food Security and HIV/AIDS. Statistical Bulletin 339-C, Central Statistical Authority, Addis Ababa, pp 170-188.

3.4 Vulnerability and Poverty Situation (Abbay Basin)

Abdussamad H. Ahmed (1987). Peasant Condition in Gojjam During the Great famine (1888-1892). *Journal of Ethiopia Studies*, Vol xx, p.1-18. .

The study focuses on the great famine of 1888-1892, that cursed major economic and social upheavals which life hard the population of Gojjam.

Abdussamed H. Ahmed (2003a). Poverty and Agricultural Evolution. In Dessalegn Rahmato (eds). *Some Aspects of Poverty in Ethiopia*. The selected paper of FSS studies in poverty No1 (FSS Library)

The article state that Ethiopia agricultural process is declining for four decades and confined unabated and some of the structurally elements of this deeming have been examine where agriculture has virtually exhausted its potential x is in capable of in its present from serving as engine of growth and development.

Abraham Molla (2004). Factors Affecting Reproductive Right of Women in Enebsie Sarr Midir District, Amhara Region. MA Thesis in Demography. AAU.

Aklilu Amsalu (2000). A Study on Soil Erosion, Land Degradation and Conservation in the Hulet Wenz Catchment, Andit Tid Area, North Shoa. MA-Thesis in Geography, AAU. .

The study investigates the relationships existing among landforms the process of socio soil erosion and degradation and to evaluate the existing conservation.

Alemante Amera (2005). Early Marriage and Reproduction Health Problems in East Gojjam: The Case of Machakel Wereda, Sostu Debir Shelel PA. MA Thesis in Social Anthropology, AAU

Ali Hassen (2000). Female Headed Households Vulnerability and their Participation in Employment Generation Skills: A Case Study of Two Peasant Association in Mekdela Woreda, South Wello. MA-Thesis in Regional and Local Development Studies, AAU - IES Library.

The study attempts to explain the socio-economic situation of female headed households in South Wello.

Amanuel Abraham (2002). Demographic and Social Factors that Influence Educational Participation of Girls in Primary School in Assosa, Town, Benishangul Gumuz. MA Thesis in Demography AAU.

Ambachew Legesse (1998). Demographic Response to Household Food Insecurity in North Wollo. MA the submitted to AAU in Demography.

The study looks at coping strategies in the case of food insecurity among the community and Northern Wollo.

Amsalu Abushe (2001). Effects of School-Parental Attitudes on Psycho Social Adjustment of High School Adolescents with Visual Disabilities: A Case of Some Selected Western Shoa High School. (M.A Thesis in Special Needs Education).

The study examines the impact of school parental attitudes on blind adolescents psychosocial adjustment status.

Aschalew Gemechu (2000). Determinants of the Nutritional Status of Children in Amhara Region: The Case of Misrak Gojjam and Semen Wello Zones. M.A Thesis in Demography, AAU. .

The study estimates the levels of child malnutrition and identifies the different factors associated with the chronic malnutrition among children.

Bankoff, Greg, George Frerks and Dorothea Hilhorst. Mapping Vulnerability. Sterling: Earthscan.

Baulch, B. 1987. Entitlements and the Wollo Famine of 1982-1985. Disasters 11 (3): 195-204.

Berhanu Ayechew (1998). Pre-marital Sexual Behavior: Pregnancy Incidence and Its Resolution in Bahir Dar Town. MA Thesis in Demography. AAU

Bendz, M. and P.A. Molin (1988). Trees Grow in Wollo. Ethiopian Red Cross Society Mission Report, Rural Development consultants Ab, Vaxjo, Sulldu.

Daniel Tesfaye (2002). Household Livelihood Strategies in South Wollo: The Case of Dankakel PA, Ambasel Wereda. MA Thesis in Social Anthropology, AAU.

Delil Hassen (2001). The Determinants of Off-farm Employment and Its Role in Rural Poverty Alleviation: The Case of Oromia Regional State. M.A in Economic Policy Analysis, AAU. .

The study explains that agricultural sector alone cannot ensure sufficient employment or income for the rural population.

Dessalegn Rahmato 1987. Famine and Survival Strategies: A Case Study from Northeastern Ethiopia. Addis Ababa: Addis Ababa University (Food and Famine Monograph, No.1), 306p. .

Donal Crummey (1997). Deforestation in Wollo: Process or Illusion. IDR Proceeding No. 17,1997.

Eshetu Bekele (2000). The Underlying Cause of Household Food Insecurity and Coping Strategies: The Case of Legambo Woreda, South Wollo Zone, Amhara Region. M.A in Regional and Local Development Studies, AAU. .

The study reports both theoretical and empirical findings on the underlying cause of food insecurity and household coping strategies in Legambo worda.

Fantaye Amsalu (2000). The Role of Married Women in Household Food Security: The Case of Kersa Kondaltiti Woreda, West Shewa. MA in Regional and Local Development Studies, AAU. .

The study investigates the role of the local people in managing biological diversity through agricultural activities.

Fisheha Begashaw (1987). Environmental Degradation Hazards: The Experience of North Western Planning Region. In Proceedings of Third Social Science Seminar held in Nathareth Oct, 27-29,1978. Report No.7. 1987

Hirut Bekele (2000). Natural Resource Degradation and the Predicament of Rural Woman: The case of Bugna Wereda, North Wollo. MA. Thesis in Regional and Local Development Studies, AAU. .

The study examines the on going Natural Resource degradation and its implication in rural Gelesot (lowland) and Telfetit (highland) kebeles in Bugna Wereda.

Jira Mekonen (2005). The HIV/AIDS Epidemic and its Devastating Consequences on the Lives of Women in Neqemte. MA Thesis in Social Anthropology, AAU.

Keremenz Agoneafir (1997). Socio-economic and Demographic Status and Differentials of Female Headed Household: The Case of Debre Berhan Zuria Wereda. MA Thesis in Demography, AAU.

The study examines the socio-economic and demographic situation and female-headed household bate in urban and rural in comparative way.

Louise Pilote, George Olwit, G/Sillassie Okubagzi and Charles Carson (1991). Community Based Nutritional Survey: Garuke Jimnte peasants' Association (Illubabor Jimma Zone) Southern Ethiopia. Ethiopian Journal of Health Research 5 (1): 25-28

Mekasha Belete (2000). Some Factors Affecting Female Pupils' Participation and Academic Performance in Primary Education in Amhara. MA in Curriculum and Instruction, AAU. .

The thesis dealt with factors that influence the participation and academic performance of primary school girls in Amhara Region.

Mengistu Gonsamo (1998). Effects of Environmental Factors on Distribution of Vegetation on the Eastern Stops of South Wollo Highland.
MA Thesis in Geography, AAU. .

The study identifies and classifies the vegetation in Southern Wollo and relates distribution and occurrence of visitation with different environmental factors.

Meron Zeleke (2005). The Socio-economic Role and Status and Gumuz Women. MA Thesis in Social Anthropology, AAU.

Mesay Mulugeta (2000). The Study on Rural Household's Food Security Status: The Case of Kuyu Woreda Oromia Regional State. MA Thesis in Geography, AAU. .

The study is on rural households food security status in Kuyu Wereda

Moges Logaw (2000). Some Factors that Influence Attitude Toward Sex Education Among High School Female Students in South Wollo. MA Thesis in Educational Psychology, AAU.

Mulualem Tesema (1998). Gender Bias Analysis of Primary School Text Book of Amhara Region. MA in Curriculum and Instruction, AAU. .

The study tries to investigate the content of Newly developed primary school text book of Amhara Region Which have gender bias message.

Poluha, E, (1990). Risks, Trees and Security: A Baseline Study of Beddedo, A Peasant Association in Wollo, Ethiopia working paper 111, revised, Swedish University of Agricultural Science, International Rural Development Center-IDRC-UPPSALA.

Seid Mohammed and Binyam G/Egziaber (1993). A cross-sectional study of Anthropometric Measurements of Women in Reproductive Age Group Attending Family Planning Clinics in Jimma Town. Ethiopian Journal of Health Development 7(2): 120.

The study shows that women have a good nutritional status in general, with a promising possibility of having children with better birth weight. There is also a need for researches on total population on women nutritional status in Jimma town.

Selome Bekele (2004). Livelihood Changes Among the Population of Rural North Wollo. MA Thesis in Demography. AAU

Shewandagne Belete, et al, (1977). Famine in Ethiopia. A Study of Shelter Population in the Wollo Region. Journal of Tropical pediatric and Environmental Child Health 23 (1): 15-22 [IES-Library].

Shewandagne Belete, et al, (1977). Famine in Ethiopia. A Study of Shelter Population in the Wollo Region. Journal of Tropical pediatric and Environmental Child Health 23 (1): 15-22.

Solomon Tekalign (1998). Soil and Soil Management Practices in Tullube Catchments of Illubabor Highlands. MA Thesis in Geography, AAU. .

The study assesses the characterization and Classification of soil and the identification of Soil management practices and their implication to soil degradation to full be catchments.

Tesfaye Shiferaw (1992). Maternal Mortality in rural communities of (Illu Aba Bora), South Western Ethiopia. 1992 6(2):54

The finding indicates a life time risk of maternal mortality ratio of 560/100,000 live births which the community experience high that is compounded by high fertility as reflected by total fertility rate of 7.6 (information gap and lack of support planning).

Tilaye Kassahun (1997). Gender Specific Investigation into the Problems of High School Dropouts in the Amhara Region. MA Thesis submitted to AAU

The problem of high school dropouts was attributed to multitudes of school related and socio economic factors.

Tilaye Negawo (1994) The Effect of Selected Proximate Determinates and Socio-Economic Factors on Fertility Rate of Rural Women in North Shewa. MA in Demography. AAU. .

The study looks at selected proximate determinants and socio-economic factors and their effects on fertility in rural Setting.

Yared Amare (2002). Rural poverty in Ethiopia: Household Case Studies from North Shewa. FSS Discussion Paper No 9. Forum for Social Studies, Addis Ababa.

The paper has discussed the relationship between poverty and additive assets which in contrast to measurements of in one, are more realistic portrayal of the current and sustained economic status of peasant households including as a source of food, animal feed, surplus for investment in assets, base of household independence, access to markets, social legitimacy and entitlement to various institutions by state.

Yohannes Dibaba (2003). Sexual Violence against Female Adolescent in Jimma Town. MA Thesis in Demography AAU.

Zewde Shetaie (1999). The Study on Agricultural Production, Environmental Degradation and Carrying Capacity in Debay Tilqgin Wereda, East Gojjam. MA in Regional and Local Development, AAU. .

The study tries to show the direct consequence of population pressure on resource, especially on issue related to sustainability of environment and food production.

3.5 Social Organization (Abbay Basin)

Bartels, Lambort (1970). Studies of the (Oromo) in Wolloga: Thier Own views of the Past. Journal of Ethiopia Studies, Vol. VIII. No. 1 pp.135-160. .

It is an anthropological/ethnographic study of the Oromo of Wollega.

Demeke Eshete (1998) Rural-urban Linkages in East and North Showa Zones. MA in Geography, AAU.

The study examines the nature and determinants of rural-urban linkages between small towns and their hinterland.

Fekadu Begna (1990). Land and the Peasantry in Northern Wollo 1941-1974. Yajju, Rayya and Qobbo Awraja. MA Thesis in History, AAU.

The study is about socio-economic and political development in Yajju, Rayya and Qobbo.

Fekadu Gedamu. (1988). Socio-economic System of the Shanqilla and the New Resettlement Program in Metekel: Conflict and/or Co-operation. In Proceedings of the Workshop on Famine Experience and Settlement in Ethiopia held at Addis Ababa, 29-30 December, 1988. Edited by Tegegne Teka. Addis Ababa: IDR Proceedings No 10.

The paper raises the possible conflict and (or cooperation in the process of interaction and indigenous people and the new settler, taking the "Shanqilla" socio-economic background into account.

Mesfin Woldesellassie (1995). The Role of Ten Small Market Towns in Integrating the Rural-urban Economy: A Case Study in Western Shoa Zone, Especially in Ambo, Chelca and Bako-Tibe Woredes. MA Thesis in Geography, AAU

The study examines the role of ten small market town in integrating the rural-urban economy in Western Shewa Zone.

3.6 Conflict and Conflict Management

Abdurouf Abdurahman (2005). Resettlement and the Dynamic of Social Integration in Chewake Resettlement in IIU Aba Bora Zone. MA Thesis in Social Anthropology, AAU.

Alula Pankurest (2002). Surviving in Wellega: The Qetu Experience. In Remapping of Ethiopia: Socialism and After.

The study explores the different way in which the settler have responded to change in production and exchange since the time and their arrival from Wollo to Wellega. It also identifies how the situation changed notably with the respect to the second generation and to the current language policy.

Assefa Tolera (1995). Interethnic Integration and Conflict: The Case of Indigenous Oromo and Amhara Settler in Aoroo Alem, KIRAMU Area, North Eastern Wallega. MA Thesis in Social Anthropology, AAU.

The study deals with the Inter-ethnic relation and identifies the factors leading to self initiated migration and settlement and assesses the area of nitrated in b/n the Oromo and the Amhara.

Berihun Mebrate (1996). Spontaneous settlement and inter ethnic relation in Matakal, North-West Ethiopia. MA Thesis in Social Anthropology, AAU- [SOSA Library].

The study underlines the nature and the process of population movement and the impact they have on the receiving society focusing on the spontaneous settler of Metekel from Wollo, Gondor and Gojjam.

Demeke Argaw (2005). Co-operation and Conflict management Mechanism among Peoples of Kalu, North East of Ethiopia. MA Thesis Social Anthropology, AAU.

Demissie Guddissa (2005). Social Network, Conflict and Indigenous Conflict Resolution. The case of the Derba Oromo of North Shewa. MA Thesis in Social Anthropology, AAU.

Dessalegh Rahmato (1988). Resettlement and Indigenous People: The Case of Metekel. In Proceedings of the Workshop on Famine Experience and Settlement in Ethiopia held at Addis Ababa, 29-30 December, 1988. Edited by Tegegne Teka. Addis Ababa: IDR Proceedings No 10. (IDR Library).

The paper examines the resettlement program in Metekel and its likely consequences on indigenous "Shanqella" population.

Mengistu Wube (1995). Resource Use and Conflict along the Blue Nile River Basin: The Need for New Conservation Sustainability Measures, Uppsala University, Sweden.

The study, by taking the three major countries of the Blue Nile: Ethiopia, Egypt and Sudan in to account, suggests about the need of water resource development project to be implemented in Ethiopia through conservation based sustainability measures. Moreover, the author suggested that political stability, understanding and environmental rehabilitation measures taken by an countries of the Nile Valley are urgently needed if water resource are to be utilized on sustainable basis by Nile Regime countries.

Schwab, P. (1970). Rebellion in Gojjam Province, Ethiopia. *Canadian Journal of African Studies* 4 (2): 249-25.

Tesemma Ta'a (1984). The Basis for Political Contradictions in Wollega: The Par Land Apportionment Act of 1910 and Its Consequences. *Northeast African Studies* 6 (1-2): 179-197.

Triulzi, Alessandro. Center Periphery Relations in Ethiopian Studies: Reflections on Ten Years of Research on Wellega History, 7th International Conference. P.359-363

The study revealed to Anthropological and historical researches to focus on the periphery areas of the country with detailed and exhibiting way by the multi disciplinary research method integration in western part of the country.

W/Sillassie Abbute (2002). Gumuz and Highland Resettlers: Differing Strategies of Livelihood and Ethnic Relations in Metekel, North-Western Ethiopia. PhD Dissertation, University of Gottingen (Germany)

Yohannes Berhanu (2001). Conflict and Conflict Resolution among the Chihera (Micro-Level Studies from Six Village in North Gondor). MA Thesis in Social Anthropology, AAU. .

The study reveals the major institution that deals with conflict resolution. It also argues that conflict resolution is based on public opinion and cultural consensus.

3.7 Development Projects

Past and On-going Projects/Programs (Abbay Basin)

Abdurouf Abdurahman (2005). Resettlement and the Dynamic of Social Integration in Chewake Resettlement in IIU Aba Bora Zone. MA Thesis in Social Anthropology, AAU.

Adane Mekonnen (1989). Health in Resettled and Indigenous Population in Kelem Awraja, Wollaga region, MPH in Public Health, AAU.

The study assesses the health condition of the study area.

Ahmed Mohammed (2005). The Impact of Resettlement on Demographic and Socio-Economic Variables: The Case Study of Haro Tatessa Resettlement Site (Bedele Woreda in Oromia Region). MA in Demography, AAU.

Alebachew Tiruneh (1997). Preliminary Study on the Development and Expansion of Non-formal Education in Benishangul-Gumuz Region. Research Report. (IER Library). Benishangul Gumuz.

Relevant information for plan of action in the attempt to establish/expand non-formal education is made available.

Alula Abate, Tegegn Teka, Bayu Chane, Admasu Gebeyehu, Kassa Kinde (1988). Evolution of the Impacts of UNICEF Assisted Water Supply Projects in Bale, Haraghe, Shewa and Wollo, Ethiopia Program Cycle 1980-1983. IDR Research Report No. 30. Addis Ababa. Unpublished Memo.

The study attempts to help define the intended effect of rural water supplies and evaluate the socio-economic impacts of UNICEF assisted rural water supplies in and administrative region.

Asmerom Kidane and Assefa Haile Mariam (1988). Some Demographic Characteristics of Settler Population in Metekel and Gambella. In Proceedings of the Workshop on Famine Experience and Settlement in Ethiopia held at Addis Ababa, 29-30 December, 1988. Edited by Tegegne Teka. Addis Ababa: IDR Proceedings No 10. (IDR Library).

The paper examines certain demographic characteristics of settler population at Metekel and Gamballa by making use of the data generated through survey conducted in 1985.

Daniel Ayana (1988). Some Notes on the Role of Village Schools in Grafting Protestantism in Wollega: 1898-1935. In: CV 50, Vol. 1, pp. 329-336. .

This study is about strengthening of the Orthodox monarchies to assist the conquest of Menelik II via missionaries' assistances in the Region to weaken Protestantism.

Dessalegn Rahmato (1997). Environmentation and Conservation in Wollo before the Revolution. IDR Proc No 17.

Desselegh Rahmato (1999). Water resource Development in Ethiopia: Issues of Sustainability and Participation. FSS Discussion Paper No. 1.

The paper emphasizes on water schemes for agricultural purpose (irrigation): large, medium and small-scale whereby the small and uses based pluralist and integrated effort to water development is encouraged. Such schemes are less costly, more sustainable environment friendly and do not involve human displacement which provide beneficiaries the option to manage directly and increase social benefit.

Dessalegn Rahimato (2003). Resettlement in Ethiopia: The Tragedy of Population Relocation in the 1980s. FSS Discussion Paper No 11.

Resettlement is a complex and costly and taking, and without careful planning, a sound assessment of land and other resource avails for resettlement, and the clown involvement of beneficial sis in both endeavors, the chances of success minimum. Resettlement under the Derg was meant to promote food security to relieve population pressure of vulnerable areas and to bring environmental rehabilitation. But none of them succeed in 1980.

ECA and Beneshangul-Gumuz (1997). A Survey of Education program in Benishangul-Gumuz Region.

Schools are scarce and in poor condition. Internal conflict among Gumuz-families affect school enrollment.

Fantahun Ayele (1994) NGOs Relief Operation in Wollo 1973-1986 MA Thesis in History, AAU.

The study advocates the necessity of NGOs involvement in combating famine.

Fanta Moges (2001). An Assessment of the Management Capacity of World Education Offices in the Amhara Region. M.A Thesis in Educational Planning and Management, AAU. .

The study assesses the management capacity of world education offices and identify the major problems of management in the Amhara Region.

Fassil G.Kiros (1979). A Critical Evaluation of Family Planning Prescription for Rural Wollo and Tigray. Ethiopian Journal of Development Research Vol 3. No.1. (IDR Library).

The study underlines the possible recurrence of drought in the region. To avert such occurrence of drought, the study recommends the urgent need for the implementation of family planning measures.

Fekede Tsegaye (1990). Technical and Managerial Aspect of Environmental and Health Impact Assessment of Water Resource Projects. The Ethiopian experience Ethiopian Journal of Health Research 4(1): 65-68. (Special article).

Fifth Nile 2002 Conference Proceedings: Comprehensive Water Resources Development of the Nile Basin for cooperation. Feb 24 –28 1997 (IDR Library)

The Western part of Ethiopia has five water basins, which can produce 80% of the total water volume annually, and only one third of the country's population live within this basins.

Getachew Mekuria and Lulseged Mengistie (PHRDP) (1996). The Role of NGOs and the Private Sector in Social Service Delivery (in Benishangul-Gumuz), Survey Research Report.

NGOs have had a very small impact, about 3% on making towards achieving the give of education for all in the region.

Getachew Olana (1993). Some Factors Influencing Peasant Response to Agricultural Technologies in Ethiopia: The case of Coffee Growers in Ghimbi, Ethiopia. Ethiopian Journal of Development Research Vol. 15 No. 2.

Getahun Hailemariam (1998). Prototype Community Health Information Retrieval System for Jimma Zone: A Case Study of Jimma Institute of Community Health. MA Thesis in Information Science, AAU. .

The study analysis the existing system and propose the design and development of appropriate commuter base information system.

Getu Ambay (2003). Displacement - Induced Resettlement in Pawi, Beles Valley of North West of Ethiopia. MA Thesis in Social Anthropology, AAU.

Hasselblat, G. (1973). The Wollo Settlement Plan A/ Basheer 2(3): 143-154.

Haultin, J, (1977). Mana and Land in Wollega, Ethiopia Gothenbury: University of Gothenbury, Department of Social Anthropology, 88 Pp.

Kassahun Kebede (2001). Relocation and Dislocation of the Communities by Development Projects: The case of Gilgel Gibe Dam (1962-2000) in Jimma Zone, South West Ethiopia. MA in Social Anthropology, AAU, .

The study examines the impact of the project on the local community.

Kinfe Abraham (2004). Nile Dilemmas: Hydro Politics and Potential Conflict Flashpoints. The Ethiopian International Institute for Peace and Development and Horn of Africa. Democracy and Development International Lobby.

The work reflects on the prospects of Nile basin sharing hydro politics and the potential of confects among these countries.

Lelissa Chalchissa (1998). The Determinant of Adoption Intensity and Profitability of Fertilizer Use: the Case of Ejere District West Shewa. MA in Economic Policy Analysis, AAU.

The study attempts to address the determinants associated with fertilizer adoption, intensity and profitability of its use in Ejere District West Shewa.

McCann, J. 1981. Ethio-British Negotiation for the Lake Tana Dam, 1922-1935. *International Journal of African Historical Studies* 14(4): 667-699.

Misganaw Fantahun, Abubeker Kedir, Assefa Mulu, Dinsa Adugna, Daniel Meressa, Estifanos Muna (2000). Assessment of Antenatal Care Services in Rural Training Health Center in Western Ethiopia. *Ethiopian Journal of Health Development*. 14(2), 155-160.

The study indicates that the antenatal care at Debark health center though established very few high-risk mothers were using it. The existing ANC clinics need to be improved to effectively screen women with high risk factors and deal with them appropriately.

Ministry of Education (1990). *Basic Education in Ethiopia: Challenges and Prospects We Want to Learn*, MOE. AA. Policy Related (Library Study), UNESCO.

Ministry of Water Resource (2001). *Irrigation Development strategy (component of the water sector development strategy)*.

Basic education is a priority program to be implemented and can be expanded under an improved and strengthens educational management system.

Mintesinot Bahiru (2002). *Assessment and Optimization of Traditional Irrigation of Verfisols in North Ethiopia. The Case Study at Gumselasa Micro-dam using Maize as an Indicator crop*. PhD Thesis, University of Gent.

Mohammed Hassen (2000). *Determinant Factors that Influence the Use of Family Planning among Eligible Couples in Rural Amhara: The Case of Bahir Dar Zuria*. MA Thesis in Regional and Local Development Studies, AAU. .

The study identifies factors that have major influence on the use of family planning.

Mored (2003b). *Voluntary Resettlement Program (A cross to improved land) Vol II* AA.

Ethiopia has been facing major food insecurity problem for the past decades where demand for access to productive land become a major problem. The intra-

regional voluntary resettlement programs are promising for the vulnerably sections and repeatedly affected section of the community by the drought.

Mulugeta Tassew (1999). Training and Agricultural Technology Adoption in Resource Poor Area of North Wollo: The Case of Meket Woroda. MA Thesis in Economic Policy Analysis, AAU. .

Oromia Education Bureau (1997). Survey of the Community Skills Training Centers in Oromia. Unpublished research report. Oromia Education Bureau. Finfinnee.

Community involvement in the selection of trainees is low. The number and type of Skill training given varies from center to center, negligence in ownership, coordination and lack of clear guideline exists.

Todd Crawford and Habteab Dagne (1972). Reforestation Program in Tigre and Wello Province. Addis Ababa. IDR Research Report No. 1.

Woldeselassie Abute (1997) The Dynamic of Socio-Economic Differentiation and Change in the Beles-Valley (Pawe) Resettlement Area, North west Ethiopia. MA Thesis in Social Anthropology, AAU. .

The study identifies, confirms and strengthens the argument that resettlers are not uniform, static and homogenous group.

Woldeselassie Abbute (2001). Environmental Impact of Development Policies in Peripheral Areas: the Case of Metekel, Northwest Ethiopia. FSS Discussion Paper No 6

Wood, A.P. (1978). Resettlement in Illubabor. Ph.D. Thesis: University of Liverpool.

Wood, P.A (1983). The Resettlement of Famine Victims in Illubabor province, Ethiopia, African population mobility project, working paper No. 28 (IES-Library, AAU.)

The study examines the impact of population movement i.e Resettlement on the natural resource (forest) of the area. Moreover, the study assesses the social dynamics in occurred in the area as a result of the resettlement program.

Yemane Berhane et. al. (2000). Community Based Medical Education: The Experience of Jimma University in Ethiopia. 2000, 14 (special issue). 227-267.

The study shows that in the past, society was criticizing universities as ivory towers. However, in the community based education system, the learning activity follows a problem solving approach by involving both students and community who drive benefit from each other. Thus, Jimma University has established the system and benefited from it.

Yohannes Woldmariam (1992) An appraisal of Afforestations: Institutional, Social and Physical Dimension: A case study of Aliyu-Amba Catchments, North Shewa. MA Thesis in Geography, AAU.

The study assesses the afforestation program being carried out in Aliyu-Amba catchment of Ankober Wereda in North Shewa.

RECENT LITERATURE ON THE NILE BASIN COOPERATION

Alemu, Senai, 1995. Problem Definition and Stakeholder Analysis of the Nile River Basin. Paper presented at the 3rd Annual Nile 2002 Conference. Arusha, Tanzania, February 13-15.

Allan, J.A., 1999(a). The Nile Basin: Evolving Approaches to Nile Waters Management. Occasional Paper 20, SOAS Water Issues Group, University of London.

Allan, J.A., 1999 (e). Avoiding War over Natural Resources. S. Fleming (ed.): War and Water. Geneva: ICRC Publication Division:

Arsano, Yacob, 1997. Predicaments of Cooperation in the Nile Basin.

Brunnee, Jutta; Toope, Stephen J., 2002. The (eds): Changing Nile Basin Regime: Does law matter? Harvard International Law Journal Vol. 43, No.1: 105-159.

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Chapter 2

Socio-economic features of the Baro-Akobo-White Nile Basin

2.1 Introduction

This chapter synthesizes the socio-economic information on the Baro-Akobo-Sobat-White Nile Basin (BASWNB) gathered by the respective national consultants of Ethiopia and the Sudan using secondary sources. BASWNB is one of the four sub basins of the Eastern Nile (EN) and covers parts of Ethiopia and Sudan. Its sources are Baro and Akobo rivers but also receiving contributions from Alwero, Gillo and Pibor rivers located in southwest Ethiopia (Figure 4). The region through which BASWNB flows through is characterized by diverse topography, climate and hydrological conditions interacting with the population inhabiting along the sub basin.

Understanding the socio-economic dimensions of the sub basin also requires sound knowledge about its waters and the environment which are likely to exert profound impact on the livelihood activities of the sub basin population. Having reliable qualitative and quantitative information on each of the three themes is vital for future analysis and identification of multi-purpose development opportunities within the framework of the Integrated Development of the Eastern Nile. The two issues on water and environment are dealt with by two separate volumes forming the One System Inventory.

In line with the TOR provided in Annex IV this chapter is organized as follows: First, the socio-economic regulatory and institutional settings of the sub-basin are described; Second, the socio-economic profile of the sub-basin, covering demography, patterns of settlement, employment/livelihood profile, issues of access to infrastructure, dimensions of poverty, vulnerability indicators, major human and livestock diseases, social organization, conflicts and coping strategies, past/ present development projects, overall assessment of socio-economic knowledge base as well as gaps in the existing socio-economic knowledge base, is presented, and finally, annotated bibliography on the socio-economic theme is given.



Figure 4: Baro-Akobo-White Nile Sub-Basin

On some issues and/or in some portions of the sub basin the discussions may not be complete because of lack information in the country level report. This is particularly true of the Sobat-White Nile portion of the sub basin where the Sudanese report contains little or no information on natural resource management regimes, mechanisms for conflict resolution and poverty status of the population. However, attempt has been made to fill the gap by consulting additional data from relevant internet sources, when available

2.2 Socio-Economic Regulatory and Institutional Settings

Sustainable use of water resources along the sub basin requires existence of national policies for effective water governance – defined as the wide range of social, economic, political, institutional and administrative systems as well as decision-making processes that influence and are influenced by water resources (National Water Development Report for Ethiopia, 2004). Effective water governance is needed to regulate the development and management of water resources and provision of adequate, safe and reliable water supplies. Lack or poorly enforced legislations/policies is a contributing factor to inefficient use of existing water resources.

Socio-economic regulatory and institutional settings characterizing the sub basins can be looked at two levels: laws/policies/institutions created through government legislations and customary practices which from long usage have acquired the ability to command respect for rules governing development and use of water resources in the sub basin. Hence, both legal documents and customary practices provide basis for the various regulatory frameworks and institutions operating along the sub basin areas.

2.2.1 National Water Policy

The consultants' reports do not provide adequate information on the existence of specific regulatory regimes (in Ethiopian and Sudan) governing the different sub basins. As stated earlier, especially the Sudanese report does not provide information on the status of water-related regulatory regimes governing the Akobo-Sobat side of the sub basin in Sudan. However, in Ethiopia there is a national water policy that outlines some key issues underlying the water sector. Though these are general statements pertaining to all water resources found within Ethiopia and hence are not basin-specific.

The Ethiopian Water Resources Management Policy outlines some fundamental policy principles based on Dublin-Rio statements (1992). A summary of the policy document is given in the 2004 National Water Development Report for Ethiopia (Box 11).

Box 11: Main issues considered in the Ethiopian Water Resources Management Policy

- Ethiopian citizens shall have access to sufficient water of acceptable quality to satisfy basic human needs. The policy gives top priority to drinking water supply
- Water has both an economic and social good
- Water resources development should be based on rural centered, decentralized management and participatory approaches. This focuses on promoting decentralized management, foster the participation of user communities and support community self-initiatives in water resources management
- Management of water resources shall ensure social equity, reliability and sustainability

Integrated Water Resources Management is emphasized in the policy document and thus the policy recognizes hydrologic boundary or basin as the fundamental planning unit and

water resources management domain. Increasingly, river basin is emerging as a unit of management of land, water and other natural resources in an integrated fashion.

The Water Sector Development Program also advocates the establishment of River Basin Authorities to be responsible for development, management and wise use of water resources of the different sub basins such as BASWNSB. Currently, Awash Basin Water Resources Management Authority is the only basin institution, though outside the Nile sub-basins, which is operating for one of the major river basins in the country.

Development of the water policy (1999), formulation of the national water sector strategy (2001), the issuance of water resources management proclamation (2000) and the preparation of the 15-year Water Sector Development Program (WSDP) beginning 2002 and Ethiopia's active involvement in the Nile Basin Initiative among others, are some of the attempts to improve water governance by way of creating the ground for sustainable water resources development and management (National Water Development for Ethiopia, 2004).

2.2.2 Fishery Development and Utilization Proclamation

In January 2003 Fishery Development and Utilization Proclamation No 315/2003 was promulgated at Federal level. The objective of proclamation is "to insure fish biodiversity and its environment as well as to prevent and control over exploitation of the fisheries resource, increase the supply of safe and quality fish and insure a sustainable contribution of the fisheries to wards food security, and expand aquaculture development." (FDRE (b), 2003) The proclamation contains provision that gives power to the Ministry of agriculture and regional states to issue their own regulations and laws for implementing the proclamation.

2.2.3 Institutions for management of water resources

In Ethiopia various federal, regional and local institutions are involved, directly or indirectly, in the water resource development sector. Vertical and horizontal linkages exist among these institutions as observed during the July-August 2006 flood disaster control and management efforts which managed to bring together several federal ministries and agencies to monitor the water level of the various hydroelectric power dams in the country.

2.2.3.1 *Federal institutions*

The Ministry of Water Resources (MoWR) is the sole federal agency responsible for the planning, development and management of all water resources in Ethiopia. Other federal level government and public institutions that have interests, direct or indirect, in the development of the water sector are shown in Box 12 (National Water Development Report for Ethiopia, 2004).

Box 12: Federal institutions dealing with the water sector

- *Ministry of Agriculture & Rural Development (MoA&RD)*
- *Ethiopian Electric Power Corporation (EEPSCO)*
- *Ethiopian Electric power Agency (EEPA)*
- *Ministry of Federal Affairs*
- *Ministry of Health*
- *Ministry of Mines and Energy*
- *Ministry of Infrastructure*
- *National Meteorological Service Agency*
- *Water Supply and Sewerage Authority (for the city of Addis Ababa)*
- *Ethiopian Environmental Protection Authority (EPA)*
- *Ethiopian Social Rehabilitation and Development (ESRDF)*
- *Water Resources Development Fund Office (WRDF)*

In addition to those listed above, there are organizations that are subsidiary to the Ministry of Water Resources (MoWR) as they are established by law as public enterprises:

- Water Works Design and Supervision Enterprise
- Water Works Construction Authority
- Water Well Drilling Enterprise
- Awash Basin Management Authority

2.2.3.2 Regional Bureaux

Each regional state has a regional water bureau responsible for the water sector. Some sector departments (e.g. bureau of agriculture and rural development) have also interest in development of water and allied resources. The National Water Development Report for Ethiopia (2004) has identified the following regional level institutions:

- Water, Mines and Energy Bureaux
- Water Resources Development Bureaux
- Bureau of Health
- Water Resources Development Commissions
- Irrigation Development Authorities
- Sustainable Agriculture and Environmental Rehabilitation Offices
- Water Works Constructions Enterprises
- Bureaux for Agriculture and Rural Development
- Regional Social Rehabilitation and Development Fund Offices.

It is not however clear how many of the above federal and regional institutions have been established/have local representations in the sub basin area.

2.2.3.3 Local level institutions

Some regions (e.g. Amhara, Oromiya) have established local (wereda) level water desks under the Department of Agriculture & Rural Development. These water desks are

responsible for planning, budgeting, implementing and monitoring and follow-up of water projects and programs, in their respective localities. Again, no specific information is available on the existence of wereda water desks in the BASWNSB.

2.3.3.4 *Academic Institutions and Research Centers*

Arba Minch University (located in SNNPRS) is the only higher learning institution in the country with a mandate to undertake training and research focusing on water resources. Water-related researches are also undertaken by other higher learning institutions such as Addis Ababa University, Hawassa University, Haramaya University, Jimma University, Bahirdar University and by research institutions such as Ethiopian Agricultural Research Organization. However, most of these researches tend to be academic oriented, mostly leading to the production of dissertations and research reports.

2.2.3.5 *NGOS and Private Institutions*

A number of non-governmental organizations are operating in Ethiopia and most of these agencies have been involved in relief operations in the past and recently moved into development. Some NGOs have been involved in projects focusing on safe water supply and small-scale irrigation schemes for the rural population. But information on the number and extent of NGO involvement in the water sector in general and in the Baro-Akobo side of the sub basin in particular is scarce. This begs the question of the urgency of undertaking a nation-wide inventory of the different stakeholders in the water sector.

Although by law and policy private companies are also encouraged to be involved in developing water infrastructures for irrigation and hydropower generation no reliable data is available on the number and extent of private institution involvement in the water sector. This is also another area requiring consultation of relevant agencies and documentation of the information obtained thereof in the future.

2.2.4 Customary practices governing water resources

Legislations/policies governing the use, development and management of water resources are of relatively recent origin. So, their presence and effectiveness at the local level is hardly felt by the population because of lack or poor development of institutions that can enforce water laws. In the absence of well-developed, formal water-based institutions locally (e.g. irrigation associations, water user groups), informal institutions (rules, values, norms, constraints customary laws) which have been developed by the indigenous population to regulate, for example, access to natural resources give local people a guide for individual and group action. Again, our knowledge of how effective and pervasive these customary laws have been is inadequate, which calls for the need to carry out an assessment of the status of indigenous knowledge base on natural resource management in general and water resource management in particular.

2.3 Socio-Economic Profile of Baro-Akobo-White Nile Sub Basin

The Baro-Akobo-Sobat-White Nile sub basin is one of the trans-boundary basins stretching from southwest Ethiopia to southeastern Sudan before joining the EN. It is home to four regional states in Ethiopia (Gambella, Benishangul Gumuz, Oromiya and SNNPRS) and three states in Sudan (Jongeli, Unity and Upper Nile). This section presents the socio-economic profile of the sub basin population focusing on demography, population density, livelihood and other related characteristics. But, first a word about the origin of data sources used in this report.

2.3.1 Data sources

Closer inspection of the consultants' reports reveals that the primary sources of information for data on population numbers and distribution along the BASWNSB came from national censuses conducted by governments of the two respective basin countries, namely Ethiopia and Sudan. In Ethiopia the Central Statistical Authority (CSA) is responsible for collecting, compiling and publishing data on population. Population and housing census is conducted every 10 years, though the last census was conducted in 1994 (in the absence of up-to-date population figures, the consultant's report is based on the 1994 population and housing census and projected population growth rates). However, it is interesting to note that this overly Census-based report is likely to overshadow the existence of other research reports on the three basins in Ethiopia. For example, the annotated bibliography covers very little or no reference on Ministry of Water Resources' work dealing with the water resources of Ethiopia.

Population figures are published by region, having a breakdown by broad demographic and socio-economic features such as sex, age, rural/ urban, employed/unemployed, etc. CSA also publishes statistical abstracts and carries out national labor force surveys, health and nutrition surveys, agriculture sample surveys and welfare monitoring surveys, which provide information on employment, population estimates, projections and trends. However, none of these data sources provides basin-specific information. Therefore, population figures and various quantitative indicators that have been compiled by the consultant cover larger geographic areas in and around the river basin.

The author for the Sudanese report indicates that the Sudanese National Census Bulletins (in six volumes) have been used in preparing the report. The Bulletins contain comprehensive statistical and demographic information. As there is no annotated bibliography annexed with the report it is not possible to comment on the quality of the data contained in the Bulletins. It would appear that whatever demographic related information is provided in the report must have originated from these Bulletins.

2.3.2 Demography profile of the population

The Baro-Akobo-Sobat-White Nile basin has an estimated population of 15.1 million (10.0 in Ethiopia and 5.11 in Sudan). This population is expected to grow in the immediate future but is gradually likely to experience a slow down (mainly on the

Ethiopian side of the basin) by the year 2015. A good proportion of the basin population is in the younger age group – 14 or less years of age – resulting in child dependency ratio of around 85¹³. On the whole, average life expectancy for the basin population ranges from 46 to 55 years for both males and females.

Population density – defined as the total number of people per km² – varies from 3 persons/km² in Gambella region to 127 persons/km² in SNNPRS in Ethiopia (note that data is not available for the Sudan). In terms of patterns of settlement, the overwhelming majority of the population is rural (90.6 % of the population in Ethiopia and 79.1 % in Sudan is rural) (Figure 5). The predominance of the rural over the urban in part shows the lack of development opportunities for the population residing in the basin.

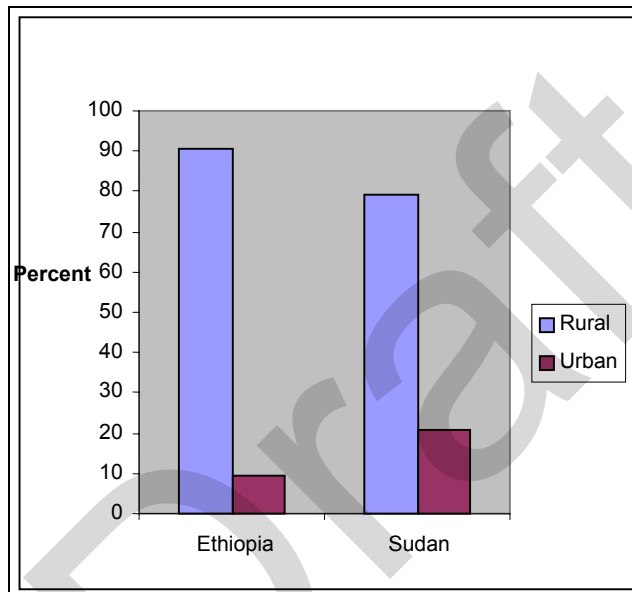


Figure 5: Patterns of settlement in the Baro-Akobo-Sobat-White Nile Basin

Data on the ethnic composition of the basin population is available only for the Baro-Akobo side within Ethiopia. Accordingly, there are six ethnic groups inhabiting the river basin. These are the Oromo (in Oromiya regional state), Jebalawi (in Assosa) and Gumuz (in Benishangul Gumuz region), Anuwak & Nuer (in Gambella region) and Keffa & Bench (in SNNPRS). The religious composition of the basin population (here again refers only to the Baro-Akobo portion of the basin in Ethiopia) includes Orthodox Christianity, Protestant and Muslim. Some form of animistic or traditional beliefs may be also practiced.

¹³This figure (expressed as the number of population under the age of 14 to those in the working age group, 15-65 years) refers to the Ethiopian portion of the basin where data is available.

2.3.3 Livelihood/employment profile of the basin population

As indicated in 1.3.4 rain fed crop cultivation is the principal activity in most of the basin where adequate rainfall is available. The economy, largely based on traditional methods of plough cultivation and supplemented by the hoe in the lowlands, is subsistence oriented. Production is dominated by growing of crops (e.g. maize & sorghum) for local consumption. The lowland population practices some kind of shifting cultivation, mainly for growing sorghum. In semi-arid to arid conditions, pastoral livestock becomes predominant. Livestock as a source of livelihood is mainly important for the Sudanese side of the basin population where there exists a high concentration of cattle, sheep, and goats (see the consultant's report). Generally, it seems that combining crop and livestock production followed by 'crop only' farming and 'livestock only' production are main livelihood strategies undertaken by the basin population in that order.

Farm employment (combining crop and livestock production) constitutes the primary source of occupation for the population. The communities along the basin (both in Ethiopia and Sudan) seems to have very limited experience in accessing cash income because of the remoteness and inaccessibility of the sub basin region from regional market centers and hence employment is concentrated in the production of primary commodities. There is very little use of the basin and its tributaries for irrigation activities (except some traditional methods of water diversion). Regarding fishing activities, Hussein and Yared (2003) focusing on the Ethiopian section of the Baro-Akobo River noted that:

In rainy season rivers in their lower reaches over-flow their banks and inundate a considerable area. The rivers contribute to the fishery development and hence to the economy of the Gambela Regional State and country are indispensable. The fish fauna of these main rivers is similar. It is rich in fish diversity and so far identified 106 distinct types of fish species (Golubtsob, A.S., and Mina, M.V. 2003). During wet season rivers flooded a large area of land and created perennial and temporary water bodies and swamps. Intensive fishing activity is done on these perennial and seasonal swamp areas and ponds in dry season. The basin has a high potential for flood plain aquaculture, however it lacks efficient aquaculture technologies. Fishing in the area is mainly on a subsistence basis, both in the main river channels and floodplain areas. Virtually every Agnuak ethnic family that settled near along the course of rivers fishes for supplement their diet. A socio-economic appraisal of the capture fisheries in the basin is essential if the development potential of the basin is to be achieved.

Going through the Sudanese report, one would find very little information regarding the livelihood/employment profile of the basin population. The Ethiopian report, on the other hand, contains some data dealing with activity rate and employment/unemployment situation of the population in the basin. Therefore, the description below refers to the Ethiopian section of the basin where some data is available. But, first what is an activity rate? An activity rate is defined as the proportion of the total economically active (employed plus unemployed) population to the total working age population.

Accordingly, the population in each of the four basin-states (Oromiya, Benishangul-Gumuz, SNNPRS and Gambella) has an activity rate of 70.4%, 69.6%, 76.6% and 62.7% respectively, while the unemployment rate is estimated to be 6.1%, 5.2%, 5.5%, and 12.5% (Figure 6).

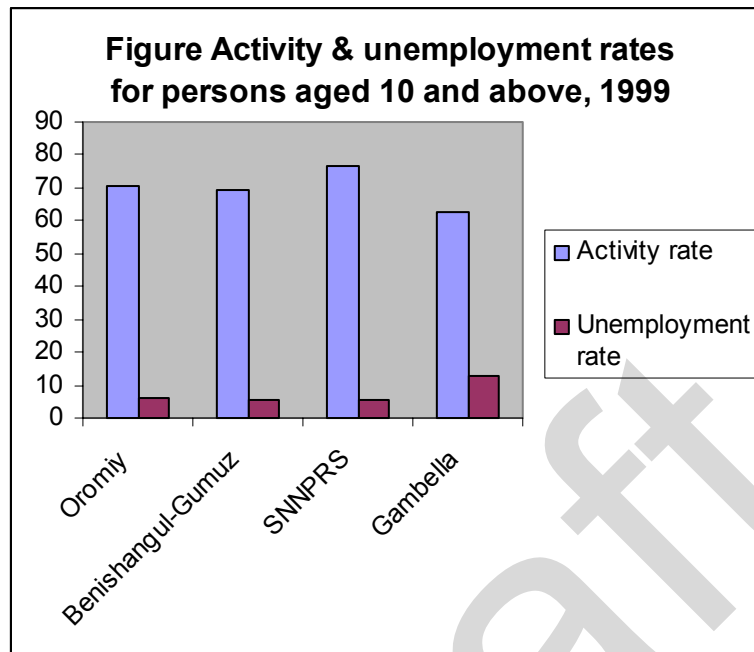


Figure 6: Activity & unemployment rates for persons aged 10 and above, 1999

Breakdown of the data by place of residence shows that rural areas have higher activity rates and relatively lower unemployment rates when compared to their urban counterparts. The restrictive (by age, education, sex) nature of the urban labor market coupled with low absorbing capacity of the ‘infant’ industries and high rural-urban migration might be some of the contributing factors to higher urban unemployment. Overall, the basin population seems to be characterized by relatively higher unemployment rates and this necessitates the need to undertake basin-based employment generating activities through irrigation, hydropower, fishing, and pasture development.

2.3.4 Access to basic infrastructure

Overall, there is a dearth of infrastructure in Ethiopia particularly as it relates to road networks, water supply and sanitation facilities, health and education services, provision of credit and extension services. Regarding roads, for example, the available information from the 2004 Welfare Monitoring Survey conducted by the Central Statistical Agency suggests that more than half of the basin population (comprising the four basin states – Gambela, Benishangul-Gumuz, Oromiya and SNNPR) does not have access to all-weather roads. This is especially true of Gambela region (most of the river and its tributaries flow through), which because of its remoteness and isolation is not connected to regional centers. The absence/lack of all-weather roads in the area is a major obstacle against efforts to promote basin-based developments such as fishing and irrigation.

Another important indicator of access to infrastructure is extent of coverage of water supply and sanitation in the basin area, especially on the Ethiopian side of the Baro-Akobo basin where some data is available. In Ethiopia as a whole and in the basin states in particular the population has very low access to safe drinking water, ranging from minimal water supply coverage in rural Gambella (14%) to modest water supply coverage in rural Oromiya (25%) (Table 12). Traditional sources often provide major source of water of the rural population. Often they are situated at long distances from residents, necessitating women to walk for several hours with heavy loads of water. Water yields may reduce significantly during longer dry periods, forcing the water carriers (overwhelming majority being women) to use lower quality water at even larger distances from their homes.

Table 12: Access to safe drinking water by region, % of population (2001) (figures for Baro-Akobo-Sobat states in **bold**)

Region	Overall	Rural	Urban
Addis Ababa	70	-	70
Dire Dawa	59.5	37	68
Harari	22.7	19	25
Gambella	17.6	14	35
Oromiya	31.2	25	76
Amhara	30.7	23	96
Tigray	34.1	29	59
SNNPR	28.6	24	83
Benishangul-Gumuz	20.3	18	43
Somali	13	7	46
Afar	16.5	14	44
Country	30.9	23.1	74.4

Source: National Water Development Report for Ethiopia (2004)

The state of the sanitation infrastructure in the basin area is also very low and this again is a reflection of the country's overall low scale of sanitation. The Sanitation Sector Strategy Paper of 1987 (WSSA) estimated the overall access to sanitary latrines at 7% of the population. In towns the coverage was 54%, in rural areas only 4% (National Water Development Report for Ethiopia, 2004). In the 1998 Welfare Monitoring Survey it was estimated that 92 % of the rural population is without latrines. Regarding the four basin states, some 86%, 77%, 90% and 91% of the rural population in Gambella, Benishangul-Gumuz, Oromiya and SNNPR are without latrines.

Access to education and health services are also important indicators of the level of development of social infrastructure in the basin area. If we take net enrolment ratio as one indicator of the state of the education infrastructure, we could see that most of the population in the basin area like the rest of Ethiopia has limited access to education. For example, net enrolment ratio in primary school in the year 2004 was 43.6% for males and 31.7% for females for Benishangul-Gumuz region, and the corresponding figures for Oromiya and SNNPR are 40.2% and 37.5 for males, and 33.2% and 29.2% for females,

respectively. Enrolment at the secondary level is very low for the three regions, for which data is available.

Regarding the provision of health infrastructure, it is believed that there are few health centers and hospitals in the Baro-Akobo basin. For example, there are only 2 hospitals and 11 health centers in Benishangul-Gumuz region for a population size of 424,432, according to the 1994 Housing and Population Census.

2.3.5 Welfare and poverty situation of the basin population

Some studies undertaken in the western part of the basin have shown that there is a wide spread poverty and vulnerability situation. For example, the Gumuz, one of the groups inhabiting the basin, are very poor, living a “hand to mouth” existence, and are “below the threshold” of peasants’ subsistence economy (Fekadu, 1988). In describing this widespread nature of poverty distribution, Dessalegn (1988) used an expression that “If there is equality in Begga [Gumuz] society, it is equality in destitution (Box 13).

One indicator of the poverty situation of the basin population is the level of food aid dependency in the region. According to the 2004 Welfare Monitoring survey, 22.8%, 36.3% and 26.9% of households respectively in the Benishangul-Gumuz, Oromiya and SNNP regions were suffering from food shortage over the last 12 months prior to the survey date. Unpublished data from DPPC (2000) also showed that **12.6% of rural population from Oromia, 29.9% from Gambella**, 14.0% from SNNP and 2.1% from Benishangul-Gumuz regions were reported to require food aid.

Box 13: Vulnerable groups in the Baro-Akob-Sobat-White Nile Sub-Basin

The poverty situation may be worse among agro-pastoral communities of the basin whose livelihood depends on raising cattle and small-scale farming. Overall, the basin is one of the poorest regions. There is paucity of socio-economic data on the welfare and poverty situation of the local population. This calls for a need to undertake basin-level socio-economic inventory focusing on the living condition of the inhabitants of the basin.

2.3.6 Social organization of the basin population

Available evidences indicate that there are two main forms of social organization among the ethnically diversified population of the Baro Akobo River Basin. The Nilo-Saharan speaking people that live in peripheral some parts of Oromia but the Whole of the Benishangul-Gumuz and Gambella regions maintain kinship based social organization (i.e., lineage or clan system). Unlike this, the Oromo and other minority groups maintain non-kinship form of social organization in which a patron-client rather than kinship (decent) rules play an important role in their social interactions.

Segementary lineage system is the governing principle according to which the social life of the Gumuz (Begga) society is organized (Desalegn, 1988). Thus, kinship ties being important rules of organization while clans are the corporate owner of the land and other natural resources in the area. The system provides an equal access of usufruct to each and

every member of the society. Due to the strong influence of the clan system, the Begga (Gumuz) society practice marriage according to the rule of exogamy that involves exchange of wives between contracting parties of different clans.

Another study conducted by Fecadu (1988) also indicates that the socio-political organization of the “Shankillas” is based on ‘domestic group of settlement’ that usually consist of 30 to 100 kin group households. According to him, a group of people living in the current Benishangul Gumuz Regional States are one of ‘the least acculturated’ ethnic group in the country, apparently due to the ideology of food taboo and pollution maintained by the neighboring peasant society against them.

On the basis of studies conducted by Hoben (1973, 2001), Baur (1977), Wissleder (1965) and Pankrhust (1992), the agro-pastoralists or shifting cultivator people have different social organization as compared to the peasant society elsewhere in the basin, where independent households serve as the basic units of its social organization. For instance, Hoben (2001) specifically indicated that households are the basic units of “social and agro-economic organization” between the Amhara and Tigrean in which patron-client, rather than kinship ties is maintained as the dominant form of social interaction.

Information which is holistic in perspective, including the economic and socio cultural life structure of the population at community, region and/or across regional levels is needed to deeply understand the social organization, as well as associated problems and opportunities of a given population. As data on social organization of the basin population is scanty, there is a need to undertake basin-level study (Box 14).

Box 14: Issues to be considered for future JMP intervention

- *Livelihood strategies*
- *Gender relationships*
- *Indigenous resource management*
- *Marginalized occupational groups*
- *Social security systems*

2.3.7 Conflict and conflict management in the Baro-Akobo basin

Part of the basin in northeast Wallaga, west Gojjam and Benishangul Gumuz consists of multi-cultural and multi-ethnic societies. Diversity is often considered to be a source of conflict in Africa (Laweler, 1975). This ethnic and cultural diversity thus defines the nature of conflicts and coping strategies employed over there. Historically, there were persistent conflicts between the Amhara, Oromo, Agew, and Shinasha peasant communities on the one hand, and the Gumuz and other ethnic groups (Tsega, 2002). In addition to this, the inter-ethnic conflict between migrant settler communities and indigenous peoples has become more frequent since recent years.

In general, a multi-layer inter-group conflict and power relations appear to characterize this part of the basin. On the one hand, the indigenous Gumuz used to enter into conflict

with neighboring peasant communities in Oromia and Amhara regions. They also have frequent conflicts with migrant settlers within Benishangul Gumuz. Conflicts between the peasant communities and this agro-pastoralist minority usually arise due to value differences and/or competition over natural resources. Especially, culture-induced disputes were common as the Gumuz were historically despised, discriminated and enslaved by their neighbors. The Gumuz culture also requires them to kill to marry; and this custom of 'killing and feuds against outsiders' used to trigger inter-group conflict (Wold-Slassie, 19997; Dessalegn, 1988; Fekadu, 1998).

Inter-ethnic feuding and communal violence is part of the Gumuz custom as vengeance is done against both the alleged offender and any one of his male relatives (Dessalegn, 1991). Abduction of women for marriage, close clan adultery and evil eye were also said to be the most common sources of conflicts in the Gumuz society.

In the Oromya part of the basin (Wallaga, Illubabor), disputes also arise between indigenous Oromo and the settler Amhara communities. This conflict constitutes the main form of inter-group conflict in the basin (Assefa 1999, 2002; Chernet 1988). Here, competition over scarce resource alone cannot explain inter-community conflicts since it some times involved armed violence. Rather, ethnic extremism, political policies of local and national governments were among the contributing factors (Tsega 2002; Asnake 2004). Generally speaking, ethnic (to preserve own culture and identity) and resource based conflicts are common in the basin area.

The communities along the basin have a range of customary mechanisms of conflict resolution. For example, elders' councils and the 'Mitchu' institution are specifically used in conflict resolution/prevention in the western part of the basin. 'Mitchu' is a system through which cross-ethnic friendship is established. The 'Mitchu' institution is believed to have been functional among first by the Oromo to assimilate the Shinasha and Gumuz (Tsega, 2002). In addition to the most widely used 'Mitchu' institution, elders' councils and the 'Gafa' – a magico-religious authority (witch doctors) – are also commonly involved in conflict reconciliation in the Gumuz society.

2.3.8 Development projects

Data on the existence of development programs undertaken by government and non-government organizations is lacking. Generally, the Baro-Akobo basin, although it is rich with natural resources such as water and fertile agricultural land, has experienced limited development activities in the past. Cognizant of the untapped development potential of the region, ENTRO has proposed the **BARO-AKOBO MULTI- PURPOSE WATER RESOURCES SUB-PROJECT** focusing water resources infrastructure which provides storage and river regulation, particularly if coupled with non-structural measures and socio-economic development activities, could provide opportunities for agricultural production, water conservation, navigation, fisheries, environmental management, flood and drought mitigation, and hydropower, providing the economic growth for substantial improvement of livelihoods for the local population as well as broader socioeconomic benefits for the region.

Future development interventions should take into account the socio-economic, cultural and ritual significance of the sub basin for the population residing in and around the sub basin (Box 14). The sub basin also supports wetlands having various social, economic, and ritual uses for the population and this needs to be investigated thoroughly before any development project is proposed and implemented.

Box 15: Key issues for social impact assessment of multipurpose project

In the Gambella national regional state that would be affected by the Baro-Akobo/Sobat project nothing has been done so far regarding land re-allocation since the overthrow of the Derg regime in 1991. Pastoralists view land and other natural resources including water as communal property in pastoral areas and all the communities have equal rights to use land, which are controlled and managed by identifiable groups at the local level. The communities have established their own socially accepted rules to use and manage resources collectively even if these are not formally recognized by the government. As 85 per cent of the Gambella people are directly dependant on the Baro-Akobo river system for cultivation, livestock production and other supplementary food collection such as fish, any project planned at the transboundary and national level will have a direct impact at the sub-national and local level. In addition to regarding linkages between the local and national level, there are also conflicts between different actors on the local level (e.g. between agribusiness vs. small land-holders). The power asymmetry between the stakeholders on the local level greatly shapes these conflicts, as different actors have different interests and means regarding land and water use, depending on their access to financial, political and human capital.

Source: Moamed Mohieddin. 2006

2.3.9 Critical data gaps to consider for the Baro-Akobo-Sobat Basin

The Baro-Akobo-Sobat-White Nile sub basin is one of the underdeveloped basins, both on the Ethiopian and Sudanese sides. Groups who have been marginalized economically and politically live along the sub basin. Their interaction with the basin's ecosystem has not been studied and understood well. For example, little is known about the social structures of the various ethnic groups living in and around the basin and how basin-level development interventions will affect these local-level institutions and structures. Therefore, there is a need to document additional basin-specific socio-economic data. The issues identified below are some of the critical areas that need to be investigated or looked in future JMP project intervention:

- *Structure of power and local leadership of the different ethnic groups*
- *Different kinship/ethnic groups and their role in water use & regulation*
- *Natural and water resources use regimes (e.g. open/restricted access)*
- *Socio-economic, cultural and ritual significance of the basin waters*
- *Role of the sub basin in the health and hygiene practices of residents*
- *Different types of basin-based livelihood activities*
- *Opportunities for income generation for residents of the basin*
- *History of group/ ethnic conflicts resulting from sharing the basin waters*
- *Local perceptions, myths and ideologies regarding the basin*
- *Traditional knowledge component about the basin and its waters*
- *Recent refugee resettlement activities in Blue Nile & Upper Nile States of Sudan*

➤ *Natural resource-based conflict management institutions*

In addition, there is a need to undertake a socio-economic survey of the basin population focusing on the interaction between people and the sub basin with a view to enriching and validating the socio-economic information provided in this synthesis report.

Draft

Annotated Bibliography of the Baro-Akobo-Sobat-White Nile Sub-Basin

Introduction

The purpose of this list is to provide an overview of some of the sources of social, hydrological and environmental data for the Baro-Akobo-Sobat-White Nile sub-basin of the Eastern Nile. These reports have been written for a wide array of purposes by a wide array of government, private and university entities. Thus the use of any secondary material should be approached from a user-beware perspective. While some of the works have been consulted in the preparation of this inventory on the socio-economic theme, the list is not exhaustive and there no doubt exists sources that have not been included. However the list does include some of the most recent references on the four sub-basin population.

Most of the references listed here can be accessed from government, private and university institutions of the respective sub-basin countries, namely Ethiopia, Sudan and Egypt. Some data sets (national population census reports) can be available in soft copies or a few are on-line resources. Users are advised to contact the relevant/ affiliate institutions where the data is likely to be stored or housed. The listed references are organized into the following categories: population characteristics, occupation and employment, etc. Each category is preceded by a brief description of the nature of information contained under the listed annotated bibliographies.

1) Regulatory regimes governing natural resources

The works listed below cover information on the different land tenure regimes especially on the Ethiopian portion of the Baro-Akobo-Sobat-White Nile sub basin and also recent attempts to reform land tenure regimes.

Alem Eshete: The Primitive Communism of the Nilo-Saharan Ethiopia Nationalities and the proclamation Nationalizing Rural Land. The case of Nuer and Annuok is Gambella region. In Proceedings of Third Social Science Seminar held in Nazareth Oct, 27-29,1978. [IDR Library]

Ashenafi Tafari (1974) *Madaria* land rights in Wollo Provinces: Their Consequence for Tement all waraf Cultivation. Madison University of Wisconsin, Land Tenure Center, 299.

Gizachew Abagaa Tenure issue in coffee Growing areas. A case study and manna and Gomma Wereda In Proceedings of Land Tenure and Land Policy in Ethiopia After the Derg. Proceedings of the Second Workshop on Land Tenure Workshop held at the Graduate School Conference Hall, 5-6 May 1994. Edited by Desalegn Rahmento. Addis Ababa Land Tenure Project, Institute of Development Research and Trondheim, Center for environment and Development , University of Trondheim. IDR Proceeding No.16.

Hussein Abegaz and Yared Tigabu (2003). Nile Basin Fisheries in Ethiopia. Paper presented for workshop on "Research Priorities in Aquatic Ecosystems and Fisheries in the Nile basin." 9-10 December 2003, Addis Ababa. Ethiopia

Mehret Ayenew (1994): The Ketto Resettlement. A Brief Comparative Survey of the Land Tenure System 1985/86 and 1993. IDR Proc No. 16.

Stahl, M (1977). New Seeds in old soil: A Study of the Land Reform Process in Western Wollega, Ethiopia, 1975-1976. Uppsala: Scandinavian Institute of African studies, 90p..

Tessema Chekune Awoke. Land Tenure Issue is high potential coffee Growing areas. An over view and South Western Ethiopia (Kaffa, Illubabor and wallaga In Proceedings of Land Tenure and Land Policy in Ethiopia After the Derg. Proceedings of the Second Workshop on Land Tenure Workshop held at the Graduate School Conference Hall, 5-6 May 1994. Edited by Desalegn Rahmento. Addis Ababa Land Tenure Project, Institute of Development Research and Trondheim, Center for environment and Development , University of Trondheim. IDR Proceeding No.16.

2) Population Characteristics: Size, Age and Sex Structure, Fertility, Mortality, Ethnic and Religious Composition of the Population in the sub-basin

The following sources provide information on population size and distribution by age and sex at regional levels classified by rural and urban place of residence for the year 1984. Total Population of urban rural areas of Awrajas, weredas and kebele or Peasant Associations (PAs) are also provided in the report. The reports, moreover, indicate actual and projected distribution of population size by age, sex and place of residence.

These reports also contain sex ratios by five-year age groups for urban and rural areas at regional level for the year 1984. Sex ratios for different religions groups are also given. These reports also contain number of deaths by sex and age group, crude death rates, age specific death rates by sex and urban and rural place of residence at regional level for the year 1984. Abridged life table, children dead and surviving, estimates of infant and childhood mortality levels along with implied life expectancy derived using different methods are also provided in the reports.

The reports also contain population size and distribution by age and sex at regional, zonal, wereda and kebele levels classified by rural and urban place of residence for the year 1994. The reports indicate actual and projected population size on the basis of the census enumeration. These reports also contain sex ratios by five-year age groups and place of residence at regional level for the year 1999. The reports also provide projected population size for each of the years during 1995 to 2030 for total population classified by sex and place of residence. Projected population by five-year age group is also provided for 1995 to 2000 every year, but every five years then after.

*Some of the reports contain numerical and percentage distribution of major ethnic groups (10,000 population or more) and religion affiliations by age, sex and place of residence at regional, zonal and wereda levels **and some of the towns with large population size.** The reports also contain level of migration by sex and place of residence; stream of in- and out- migration rates by place of residence and sex. It also presents forms of migration by sex and place of origin for the year 1984. Information, however, is available at the then administrative region level.*

- Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Keffa Region, Central Statistical Authority: Addis Ababa.
- Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Illubabor Region, Central Statistical Authority: Addis Ababa.
- Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wellega Region, Central Statistical Authority: Addis Ababa.
- CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol I: Part I. Statistical Report, Central Statistical Authority: Addis Ababa, pp 13-26.
- CSA (1995). The 1994 Population and Housing Census of Ethiopia. Results for Gambella Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa, pp 11-16.
- CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.
- CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for SNNP Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa
- CSA (1998). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.
- CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Gambella Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.
- CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for SNNP Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.
- CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.
- CSO (1976 to 1984) and CSA (1985 to 2004). Statistical Abstract - Ethiopia. Central Statistical Authority: Addis Ababa.
- CSA (2000). Analytical Report on The 1999 National Labour Force Survey, Central Statistical Authority: Addis Ababa.
- CSA (2002). Ethiopia Child Labour Survey Report, Central Statistical Authority: Addis Ababa.
- CSA (2004). Report on Urban Bi-Annual Employment Unemployment Survey October 2003 1st Year Round 1, Central Statistical Authority: Addis Ababa.
- CSA (2004). Report on Urban Bi-Annual Employment Unemployment Survey October 2003 1st Year Round 2, Central Statistical Authority: Addis Ababa.
- The above two reports contain sex ratios for urban parts at regional level for the year 2000.
- Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wellega Region, Central Statistical Authority: Addis Ababa.

- CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol I: Part III. Statistical Report, Central Statistical Authority: Addis Ababa, pp 93-107.
- CSA (1995). The 1994 Population and Housing Census of Ethiopia. Results for Gambella Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.
- CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa.
- CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for SNNP Region. Vol. I: Part III. Statistical Report, Central Statistical Authority: Addis Ababa.
- CSA (1998). The 1994 Population and Housing Census of Ethiopia. Results for Oromia Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa, .
- CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Gambella Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.
- CSA (1999). The 1994 Population and Housing Census of Ethiopia. Results for Benishangul-Gumuz Region. Vol. II. Analytical Report, Central Statistical Authority: Addis Ababa.
- CSA (1998). The 1994 Population and Housing Census of Ethiopia. Results for SNNP

3) Employment/Occupation Characteristics/Livelihood Profile

*These reports contain the distribution of working age population by economic participation status and activity rates, unemployed population and unemployment rates by age group and sex at regional level and **major urban centers**. The reports also present numerical and percentage distribution of employed and unemployed persons and reasons for not engaging in the labor force by sex and place of residence at regional levels and some of the major urban towns for the year 1984. The reports also contain employment status, occupation and industrial characteristics of the employed people by educational level; and the age as well sex characteristics of the unemployed population.*

The reports also contain major occupational and industrial distribution of the economically active population in Ethiopia including skilled and unskilled labour in agriculture, livestock, hunting and fishing, as well as jobs taken as primary activity by sex, age group and place of residence at regional level for the year 1994. The reports also contain minor occupational and industrial distribution of the economically active population by sex and place of residence at regional level.

Also some of the reports contain the type of holding (mixed, crop only and livestock only) of agricultural holders by sex and place of residence at regional, zonal and wereda level for the year 2001/01. The reports also show working status and reasons for not working among the population in the agricultural households by sex and place of residence. They also show employment status and type of working by sex and place of residence at regional, zonal and wereda level.

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- CSA(2003) Ethiopian Agricultural Sample Enumeration, 2001/02 Result for Gambella Region, Statistical Report on Socio-Economic Characteristics of the Population in Agricultural Household, Land Use, Area and Production of Crops, Farm Management Practice, Livestock and Farm Implement. Central Statistical Office, Addis Ababa.
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4) Social and Physical Infrastructure Provision

These reports contain status of literacy and school attendance status distribution, gross and net enrolment rates by sex and place of residence at regional and zonal levels for the year 1994. The reports also contain the distribution of those currently attending school by age, sex, grade and place of residence and also show school progression at regional level by sex and place of residence. Age-sex specific enrolment rates as well as gross and net enrolment rates are also given by place of residence at regional level for the year 1984. The reports also show percentage distribution of population by literacy status, and highest grade completed across sex and place of residence at regional and zonal levels.

The reports also provide the total number of hospitals, health centers, and clinics; as well as total number of medical personnel at regional level. The reports also contain distribution of households according to distance to the nearest health facilities (health post, clinic, health center, hospital and pre/post natal care), use of health facilities and reason for not using health facilities by place of residence at regional level for the year 2004. Distribution of households according to level of access to source of drinking water, toilet facility and method of waste disposal in rural areas at regional level and some selected urban centers for the year 1996 is also provided in the reports. Besides, limited data is available on access to roads, credit and markets infrastructure as well as extension services.

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Chapter 3

Socioeconomic Characteristics of the Tekeze-Atbara Sub Basin

3.1 Introduction

Background socio-economic information has been compiled and presented in the Eastern Nile Subsidiary Action Program (ENSAP) Multi Purpose Development of Eastern Nile under the title **One System Inventory**, and covering Socio-Economic Characteristics of the Eastern Nile Basins. The socio-economic theme focusing the Tekeze-Atbara sub basin as one of the main tributaries of Main Nile also forms part of the report of the One System Inventory. Two national consultants of the respective basin countries have prepared two separate socio-economic theme reports covering the Ethiopian portion of the Tekeze river basin and Sudanese side of the basin. In this part of the report, a synthesis of the socio-economic information dealing with the Tekeze-Atbara sub basin is presented. It covers numerous topics of interest, including:

- Hydrology and environment
- Policy/legislative frameworks
- Basic demographic profile of the basin population
- Livelihood and employment characteristics
- Social and physical infrastructure
- Welfare and poverty conditions of the sub basin population
- Development projects in the sub basin

3.2 Hydrology and environment

The Tekeze-Atbara sub basin comprises two major catchments covering the Ethiopia northwestern highlands (Tekeze river basin) and the Sudanese southeastern lowlands (Atbara river basin) (Figure 7). This sub basin, like the other sub basins of the Eastern Nile, originates from the Ethiopian highlands north of Lake Tana and flows westward into the Sudan joining the Nile as its last tributary at the town of Atbara. The Tekeze River basin includes the River Tekeze (610 km length and 68,751 sq. km basin area), the River Angereb (220 km length and 14750 sq. km basin area) and the River Goang (130 km length and 6500 sq. km basin area) (TBIDMPP, 1998; quoted by Hussein and Yared, 2003). The topography of the basin can be divided into highlands with the altitudes of 1500 m to over 3000m and low lands with the altitudes of 500-1500m.



Figure 7: Tekeze-Atbara-Setit Sub-Basin

3.3 Policy/legislative frameworks governing water resources in the Tekeze-Atbara sub basin

Apart from federal/national level legislations/institutions dealing with the water sector in Ethiopia (for details refer to 2.3) there are regional government agencies whose attention focuses on the water resources located in and around the Tekeze river basin and its tributaries. In this regard, mention should be made to the responsibility given to the regional water bureaus of Amhara and Tigray regional states. Each of these institutions have interest in developing, managing, and harnessing the water resources entering into the Tekeze River basin that borders Amhara (south) and Tigray (north) states. Also, the two federal universities - Bahir Dar University in Amhara and Mekelle University in Tigray - have undergraduate programs that consider water and water related courses in their curricula. For example, Mekelle University has established a program in Dryland Agriculture with a focus on the hydrology of the Tekeze; and the engineering wing of Bahir Dar University has an interest in water resources engineering.

In both Ethiopia and the Sudan, there are several federal and regional level legislations dealing with the environment, water and other related issues. For example, in Ethiopia National Water Resource Policy stressing an integrated water resource management strategy has been issued. Underpinning the water resource policy is the recognition given to the hydrologic boundary or basin as the fundamental planning unit. The Ministry of Water Resources in collaboration with the Environmental Protection Authority is the lead federal institution responsible for the water sector. Similar policy/legislative frameworks most of which are sector based (e.g. forestry, wildlife, fishery) also exist in the Sudan.

At the regional/international level, regional and international treaties also govern the waters of the Tekeze-Atbara sub basin since it is a tributary to the Nile River. In addition to past treaties (Box 15), some examples of recent international agreements focusing on the River Nile include: The Nile Basin Initiative launched in 1999, Framework for General Cooperation between Egypt and Ethiopia in 1993, Joint Communiqué Issue between Kenya and Egypt in 1993, Exchange of memoranda between Egypt and Uganda in 1991.

3.4 Basic Demographic Profile

As the Tekeze-Atbara sub basin crosses two national boundaries (Ethiopia and Sudan), its population is made up of two groups: One group inhabits the upper reaches of the Tekeze River and the other group occupies the lower portion of the sub basin. The first group lives in Ethiopia, mainly in Amhara and Tigray regional states while the second group lives in the Sudan comprising the three states of Nahr Elnil, Kassala and Elgadarif.

Data compiled from the Population and Housing Census of Ethiopia (1994) and The Sudanese National Census Bulletins give an estimated basin population of 12.2 million

on the Ethiopian side (based on population estimates for 2000) and 4.271 million on the Sudanese portion of the basin (Box 16). This makes the sub basin the second largest populated region of the three sub basins of the Nile River, after the Abbaya-Blue Nile sub basin. The sub basin is expected to experience relatively higher population growth rate on the Ethiopian side (for example, inter-censual growth rate was between 1984-1994 was 2.6) compared to 2.5% on the Sudanese side of the basin. However, the projected population growth rate for Ethiopia is expected to decline from 2.9 % during 1995-2000 to 2.4 % in 2010-2015. Achieving this target, of course, depends on the ability of the two concerned regional states to aggressively implement the National Population Policy of Ethiopia, which aims among other things lowering birth rates from 7.7 children per woman in 1993 to 4.0 children in 2015.

Regarding the composition of the basin population by sex and age, the sex ratio on the Ethiopian side is at parity (that is 100 males per 100 females) whereas on the Sudanese side there is a slight excess of males over females (i.e., 103 males per 100 females). Age-wise, the population throughout the sub basin tends to be dominated by a pyramidal structure that is characteristic of most developing countries having large width at the base (indicating the predominance of the relatively younger persons under the age of 15) and gradual reduction of population concentration from middle through the uppermost section of the pyramid, signaling higher child dependency ratio. Old persons (aged 65+ in Ethiopia and 60+ in Sudan) account 8 % of the basin population on the Ethiopia side and 4.5 % on the Sudanese side.

Box 16: Summary of population parameters of the Tekeze-Atbara Sub-Basin

Population characteristics	Ethiopia	Sudan
<i>Population size</i>	12.2 m	4.271 m
<i>Growth rate</i>	2.6 (1984-94)	2.5
<i>Sex ratio</i>	100:100	103:100
<i>Old age</i>	8% (65+ years)	4.5 (60 + years)
<i>Population density (per km²)</i>	39.4-147.4	-
<i>Infant mortality</i>	123 per 1000 (1994)	112 per 1000 (1993)
<i>Life expectancy</i>	48.2-49.6 (males) 51.1-52.2 (females)	54 (males) 56 (females)

The Tekeze-Atbara basin appears to be characterized by uneven population distribution, with the Ethiopian highlands being more densely populated compared to the down-stream lowlands in the Sudan. Within Ethiopia there is variation between regions with crude population density varying from 39.6 persons per km² in West Tigray of the Tigray regional state to 147.4 persons per km² in South Wello of the Amhara regional state. Generally, the Ethiopian side of the Tekeze basin has an average population density of 59 persons per km² whereas data for the Sudanese side is not available.

Although the Tekeze-Atbara basin population generally seems to experience higher rates of infant mortality, the Ethiopian side appears to be even higher (with Tigray region having in 1994 an infant mortality rate of 123 per 1000 live births) than the Sudanese side, which is somewhere around 112 deaths per 1000 live births in 1993 (Figures 8). The basin population in Tigray has an average life expectancy of 48.2 for males and 51.1 for females whereas in Amhara average life expectancy is 49.6 for males and 52.2 for females. In Sudan the basin population has relatively higher life expectancy; that is, 54 for males and 56 for females.

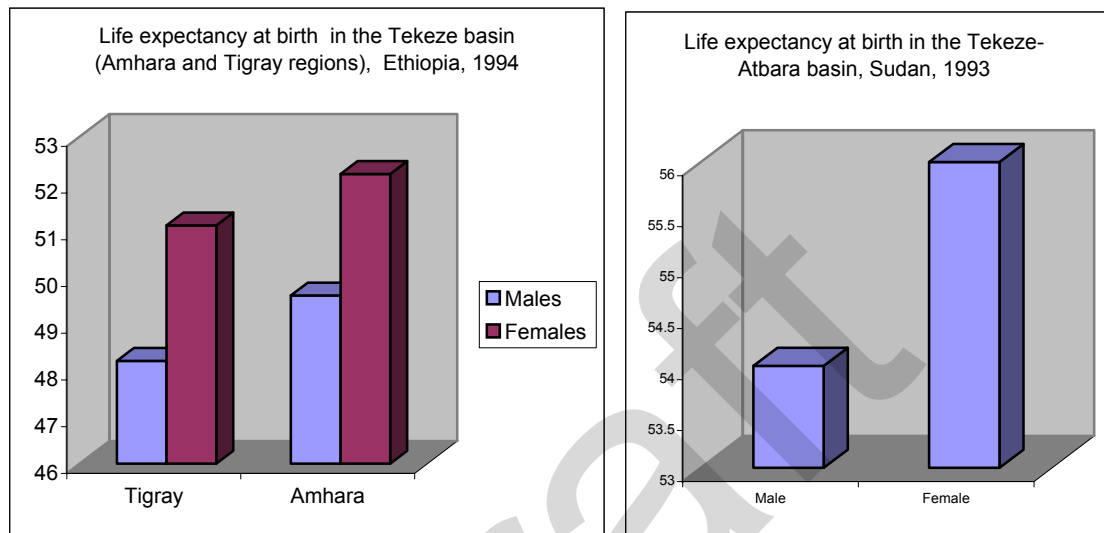


Figure 8: Life expectancy at birth in the Tekeze-Atbara basin, Ethiopia (1994) & Sudan (1993)

The overwhelming proportion of the population in the Tekeze-Atbara basin lives in rural areas where access to infrastructure and social services is very limited. However, degree of rurality varies from region to region along the basin. Hence, between 83 % (in Tigray) and 94 % (in Amhara) of the population is predominantly rural whereas in Sudan 34 % of the basin population (consisting of the three states of Nahr Elnil, Kassala, Elgadarif) is urban. This shows that the upper reaches of the Tekeze-Atbara basin has experienced a very low scale of urban development and associated services. Numerous ethnic groups both on the Ethiopian and Sudanese sides inhabit along the sub basin (Box 17).

Box 17: Names of ethnic groups living along the Tekeze-Atbara Sub-Basin

Ethiopia	-	Sudan
➤ Amhara	-	Al Gaalyin
➤ Tigrians	-	Al Rubatab
➤ Kemant	-	Al Merafab
➤ Kunama	-	Al Omerab
➤ Saho	-	Al Fadiniya, Shukra
➤ Agew	-	Almanasir, Nubia, Habanya
➤ Oromo	-	Beja, Hadandwa, Beni Amir

The basin population depends for its livelihood on the natural endowments of land and water and other associated resources (such forestry and fishing) provided by the basin and its environs. Before describing the different types of livelihood activities undertaken by the basin population, it is important to define what an activity rate is as it relates to productive and employment situation of a given population. Activity rate is defined as the proportion of the total economically active (employed plus unemployed) population to the total working age population¹⁴. Accordingly, the basin states of Amhara, and Tigray in Ethiopia respectively have an activity rate of 76.6%, and 71.4%; whereas in Sudan the two basin states of Nahr Elnil and Kassala have male activity rate of 67.5 and 74.1 respectively. This indicates that the overwhelming majority of the economically active population is engaged in some form of livelihood activities.

Generally, crop production and livestock herding are the two most dominant economic activities along the basin. Information compiled from the 2001/02 Agricultural Census of Ethiopia showed that for the basin states of Amhara and Tigray a combination of crop and livestock holding (nearly about three-fourth) constitutes the primary source of livelihood, followed by crop only farming (about one-fifth of the holding) and livestock only holding (about 3.3% and 2.7% for Tigray and Amhara regions respectively). The Sudanese inhabitants in the lower bank of Tekeze-Atbara basin are also engaged in crop cultivation using Atbara River.

The dominance of sedentary agriculture in the basin area implies that crop farming is more important as a source of livelihood than pastoral production. A smaller proportion of 'only livestock' holdings is also an indicator of few pastoral population in the basin, though there is a substantial pastoral population (about 10 % in Sudan) engaged primarily in animal husbandry. In Ethiopia, regional level analysis shows that pastoralism as a way of life is very minimal in the Amhara region compared to Tigray region. A greater proportion of the population living in South and East Tigray are engaged in cattle herding and this supports the view of the relative nomadic character of the population living there.

Agriculture-related occupations provide major source of employment for the basin population. There are at least two types of employment in agriculture: those engaged in subsistence agriculture (comprised of a substantial proportion of the labor force), and those who are employed in mechanized/semi-mechanized commercial farms. According to the 2001/2002 Agricultural Enumeration Survey of Ethiopia, the majority (i.e. over 60%) of the population of the two basin states is engaged in fully agricultural occupations. Only 5.4%, and 13.3% of the population in Tigray and Amhara regions, respectively, are engaged in partially agricultural type of occupations and only 1.2% and 1.1% of the population of the two regions are engaged in non-agricultural occupations (Figure 9).

¹⁴ The Working age population is usually determined by considering national circumstances. In Ethiopia, population 10 years and over are considered as working age population.

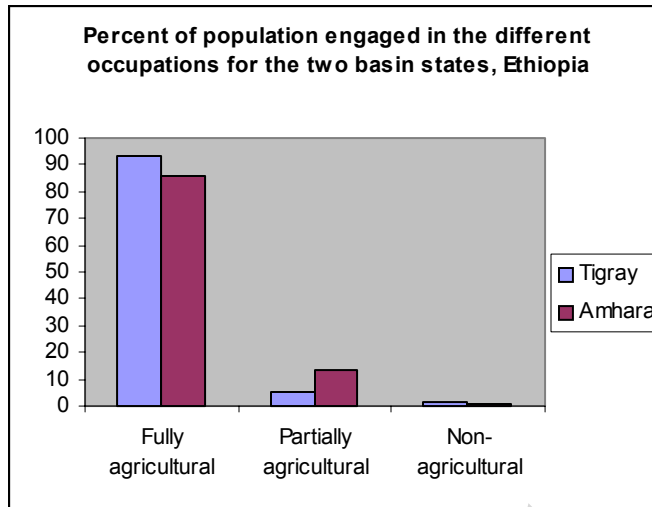


Figure 9: Percent of population engaged in the different occupations for the two basin states, Ethiopia

The contribution of mechanized agriculture to employment creation in the area is very limited, mainly concentrated around Humera in Ethiopia and near Atbara River in Sudan. Most of the farms are undertaking crop production (for example, sesame and cotton in Ethiopia; wheat, beans, durra and vegetables in Sudan) and provide important source of supplementary cash income for the basin population by serving as important destinations for seasonal labor migration within and beyond the basin. Overall, with the exception of the Sudanese portion of the Tekeze-Atbara areas where there are a good number of industrial activities especially in Nahr Elnil state where the favous Portland Cement Factory in Atbara town and the Shendi and Norab Textile Factories are located, the basin population has very limited access to employment in the service and industrial sectors.

In Ethiopia, the two basin states of Amhara and Tigray have unemployment rate (defined as the proportion of the unemployed population to the economically active population) of 7.7% and 6.1%, respectively. However, the Sudanese side of the Tekeze-Atbara basin appears to experience relatively higher unemployment rate ranging from 10.5 in Nahr Elnil state to 23.9 % in Kasala state (Figure 10).

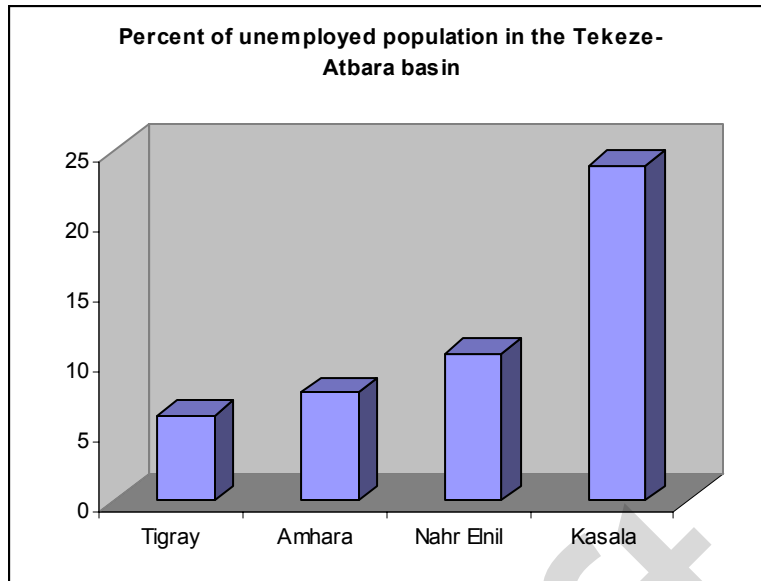


Figure 10: Percent of unemployed population in the Tekeze-Atbara basin

According to the 1999 National Labour Force Survey, the service sector accommodates nearly three-fifth of the urban employed population for each of the regions. About 14% & 20% of the urban working population of Tigray and Amhara regions, respectively, is subsumed by the manufacturing sector (the second highest) while agriculture employs 11.8% of the Tigray urban residents and 11.4% of the Amhara's urban employed population. Employment opportunity in the public administration is slightly higher (6.2%) in the Tigray while it is 6.0% in Amhara region.

3.6 Level of access to social and physical infrastructure

The two major components of infrastructure discussed here are: social services and physical infrastructures. Education and health are the two most important elements of the social service infrastructure whereas water supply and roads constitute the physical infrastructure component. The Tekeze-Atbara basin population, both on the Ethiopian and Sudanese sides, is characterized by differential access to social and physical infrastructures. Because of the biased allocation of limited productive and investment resources favoring urban areas which was characteristics of government policies during and before the 1980s most of the rural population along the basin lacked basic social and physical services. Added to this were the protracted civil wars that consumed northern Ethiopia (in the 1970s and 1980s) and Southern Sudan (in the 1980s and 1990s), both of which fall within the Tekeze-Atbara basin. There have been some improvements in the 1990s and afterwards in terms of increasing school and health coverage in the rural parts of the basin and also building road networks connecting the basin population with each other and with other regions. However, much has to be done to make the basin accessible to social and infrastructure and improve quality of life of the basin population.

3.6.1 Education services

The Tekeze-Atbara basin population is found at different levels of access to education. For example, the Tekeze area on the Ethiopian side appears to experience low education coverage as defined in terms of school enrolment ratios at primary and secondary levels compared to the Sudanese portion of the basin where basic education coverage for both boys and girls seems to be higher. Primary net enrollment ratio is defined as the number of pupils (age 7-12 years) who are currently attending primary school divided by the total number of children in the age group 7-12 years whereas secondary net enrollment ratio is defined as the proportion of children aged 13-18 years and is attending secondary school (grade 7-12) divided by the total number of children in age group 13-18 years.

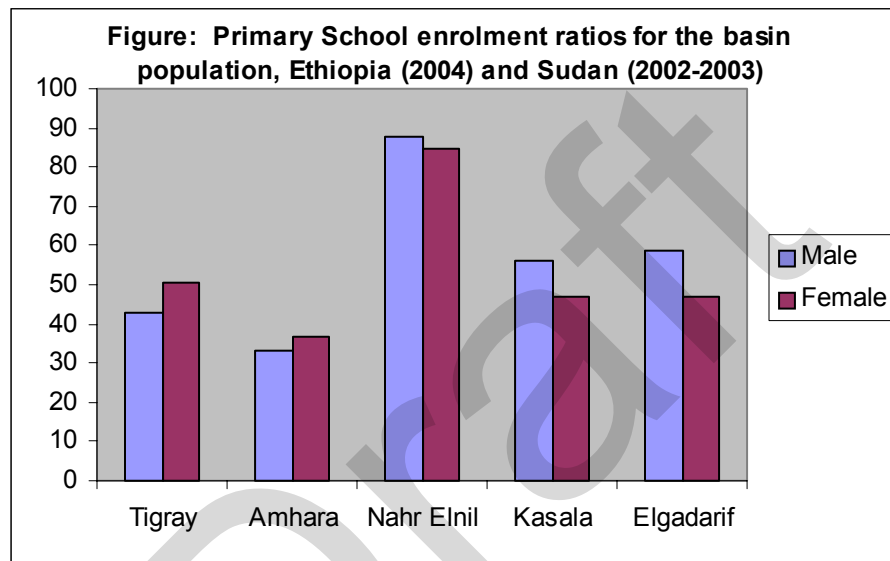


Figure 11: Primary school enrolment ratios for the basin population, Ethiopia & Sudan

As shown in Figure 11, for the two basin regional stated in Ethiopia, namely Tigray and Amhara, the **net enrolment rates** at primary level in 2004 was 43.1 % for males and 50.6 % for females, and 33.2 % and 36.8 % for males and females, respectively. The data, in general, show that more than half of the youngster population who should be in school is not attending primary school. In the Sudan, on the other hand, comparative figures for the three basin states range from 60.5 % in Elgadarif state to 74.9 % in Kasala and 97.9 % in Nahr Elnil states. The Ethiopian side of the basin seems to have performed well. The Ethiopian side of the basin (especially Tigray regional state) appears to have done better in improving females' access to primary education compared to the Sudanese side of the basin where girls are lagging behind boys in all the three states.

However, enrollment at secondary school level is very low in most of the basin regions, especially on the Ethiopian side where three-fourth of the population eligible for secondary education appears to engage in different activities. This indicates that the role of education in promoting development among the residents of the basin is still minimal. This might be due to lack of access to secondary education or due to the prevailing poverty preventing families from sending their children to school.

3.6.2 Health Services

The national health care system in Ethiopia (where data is available) consists of community health services (health posts), health stations (clinics), district hospital, regional hospitals, and central referral hospitals. Health posts are one of the satellite facilities organized at the Primary Health Care Unit. The existing community health service at a health post has one community health agent (CHA) and one trained traditional birth attendant (TBA) to render basic health services. Each health post is expected to serve about 5,000 people. Health stations (clinics) are the smallest health units in the conventional health service structure and are staffed with 1-3 health assistants, and expected to serve 10,000 people. Though it is not possible to trace information on the number of health facilities on the Ethiopian side of the basin, there are 393 health posts and clinics in Tigray Region while there are 1461 in Amhara Region.

On the basis of the health services expansion program, health centers cover wider area and provide specialized outpatient services in Ethiopia. A health center is expected to provide services for at least 25,000 people while hospitals are expected to serve as referral centers for the population in the catchments area. There are few health centers and hospitals in each of the regions located in the Tekeze River Basin. Only 15 hospitals and 48 health centers are located in Tigray Region while there are 18 hospitals and 126 health services respectively in Oromia and Amhara Regions. Hospitals in the regions are also equipped with limited hospital beds and specialized staff. Only 1256 beds are available in hospitals found in Tigray while 1505 beds are found in hospitals of Amhara regions.

Though private sector involvement in the health sector is important to enhance the quality and coverage of health services, very few private clinics and health centers are available in the two regions located in the Tekeze River Basin. According to the health information compiled by the MOH, there are 31 private clinics in Tigray and 304 in Amhara region.

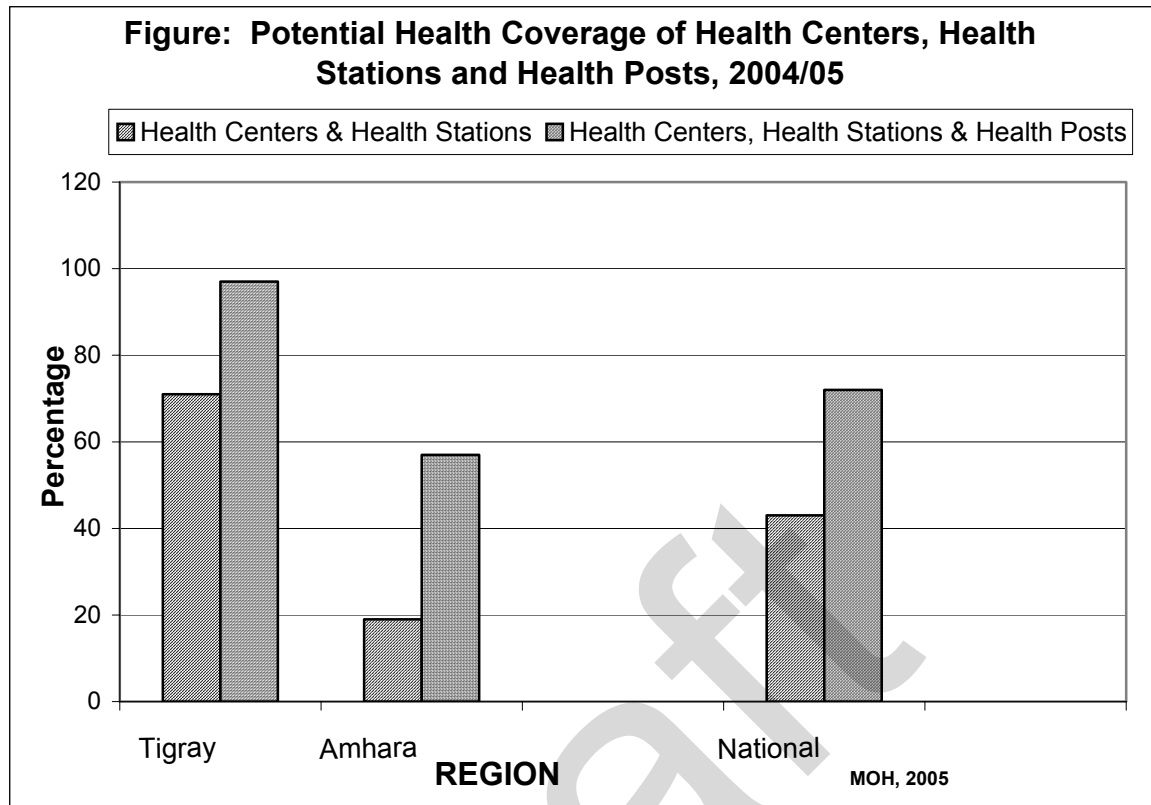


Figure 12: Potential health coverage for health centers, health stations & health posts, 2004/05

The MOH calculates health coverage rate on the basis of the number of health facilities (i.e. health centers, health stations and health posts) and the expected catchments areas in each of the administrative units (MOH, 2005). As shown in Figure 12, the potential health coverage in Tigray region is relatively high and approaching to full coverage while access in Amhara region is excessively below full coverage. This indicates that there is a serious problem in promoting health services through the country without even considering its quality. If access to health is required for all population living in each and every corner of the basin, one needs to work hard to build more health facilities in Amahra Region besides ensuring the quality of services in all of the two regions.

Another indicator of access to health is the ratio of population to available health professionals that include physicians, health officers, nurses, environmental health workers and health extension workers. The number of population per physician for Tigray region is 54,844 and 142,184 for Amhara region, showing great disparity between regions. At national level the ratio of population per physician is 29,777. The number of people to be served by a physician in the two regions located in the Tekeze basin is far from being close to the standard set by the World Health Organization, which is 10,000 people per physician. The Sudan side of the Tekeze-Atbara basin population seems to enjoy a relatively better coverage of health services as shown in the Table 13. Health is

an important component of human resource development and attention should be given to improve the quality and coverage of health service deliveries for the basin population.

Table 13: Health personnel per 100,000 population for the three basin states, Sudan

Health personnel/100,000	Nahr Elnil	Kasala	Elgadarif
Specialists	2.3	1.5	1.2
Dentists	1.2	0.2	0.2
Doctors	14.0	5.3	6.5
Technicians	8.5	3.7	5.7
Medical assistants	38.1	22.9	12.8
Nurses	84.3	54.8	48.9
Public health officers	1.4	1.6	1.2
Midwifery	42.9	39.9	32.9

3.6.3 Drinking Water Supply Service

Water is a basic need in sustaining life; only a minority of Ethiopians has an access to potable water (National Water Development Report for Ethiopia, 2004). Urban areas receive better water supply service than rural. According to the 1994 second National CSA survey, only 24% of the housing units in the country used a safe source of water, 14% through piped (tap) water, 10% from protected and springs. The rest, 76% of the country's population used "unsafe" water, such as from unprotected springs and wells or directly from rivers. In 1994 this concerned over 40 million people. In 1998 the situation had not improved; still 77% of the population using unsafe water. It then concerned 46 million people.

In 2001, of the two Tekeze basin regional states, the basin population in Tigray (34.1%) seems to enjoy better access to safe drinking water compared to Amhara (30.7%) or even in comparison to the national water supply coverage, which is 30.9% (Figure 13). In the 2004 Welfare Monitoring Survey conducted by the CSA, more than 50 % of the population in Tigray has access to safe drinking water. However, the safe drinking water supply situation in Amhara region has not improved over the period, 2001-2004 (Figure 12). Information on the water supply situation of the Sudan side of the basin is not available.

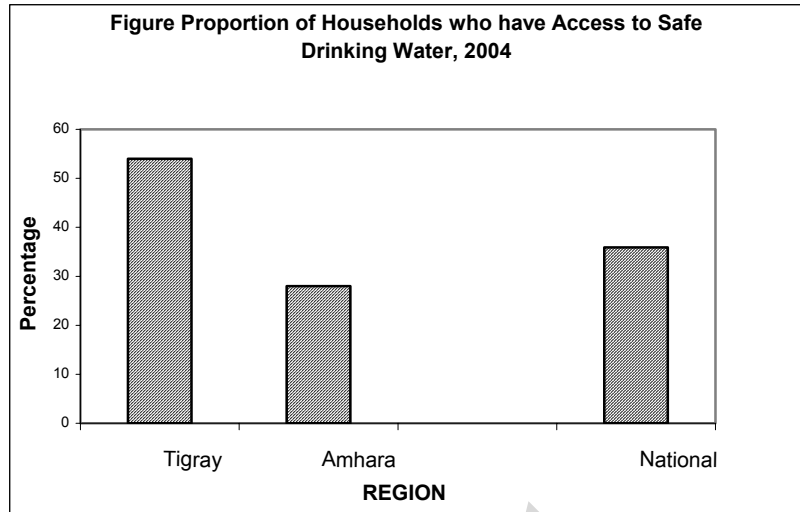


Figure 13: Proportion of households who have access to safe drinking water, 2004

Source: CSA (2004). Welfare Monitoring Survey Report

3.6.4 Access to roads

The road infrastructure is another access component, which appears to be the least developed in the basin areas. The Ethiopian side of the basin population is connected with the rest of the country with only one asphalted road crossing the northeastern upper portion of the basin stretching southwards to the national capital, Addis Ababa. Further down in the west are all-weather gravel roads connecting Tigray region in the north and Amhara region in the south of the basin. An all-weather gravel road is connecting parts of northwestern Ethiopia with that of southeastern Sudan allowing movement of goods (fuel and agricultural products) and people between the two countries. However, the road need to be upgraded to asphalt in order to increase movement of population and goods across the Tekeze basin and make the region a trading center for both Ethiopia and Sudan.

According to results of the 2004 Welfare Monitoring Survey conducted by the CSA about 42 percent of the rural households in each of Tigray and Amhara regions are living in less than five kilometers away from the closest all weather roads, indicating that over half of the population in the basin area do not access to all weather roads. The basin population lives far off from the only 517 km railway line serving eastern part of the country, the Addis Ababa-Djibouti railway line.

The Sudanese side of the basin is better served with road infrastructure. There is one all-season road connecting the basin (Nahr Elnil state) with Khartoum. Atbara town is the center of railways and there are so many railways connecting the state with other regions. In fact the railways in Sudan is the oldest on the continent and the longest, extending for more than 4570 kilometers and together with the branch lines constitute some 5500 km.

3.7 Welfare and poverty situation of the basin population

A good deal of poverty-focused research has been carried out in different parts of the Tekeze River Basin. Review of existing literature on the subject reveals that there is an important wealth of information made available especially through household and community studies undertaken/sponsored by the Ethiopian Economic Association (EEA), Forum for Social Studies (FSS), Institute of Development research (IDR), and other NGO and donor-agencies.

Some studies carried out on poverty situation in the area (Dessalegn, 2003; Yared, 2003) indicate that rural poverty has been increasing in ‘severity and magnitude for the last fifty years mainly due to population growth, lack of access to productive assets, crop failures and the like. As a result of this, the ‘prevalence of poverty and destitution has reached “unacceptably high level in Ethiopia”. According to the results of the Welfare and Monitoring Survey conducted by the Central Statistical Authority, 47.5% of all rural households are believed to be poor (CSA, 2004).

Poverty and destitution have been also studied from livelihood perspective, in which both were understood as ‘states of livelihood deprivation differing in degree’. For instance, Dessalegn (2003) examined the transition from poverty to destitution using data on frequency of famine, declining food consumption, and increasing malnutrition and associated health status. Based on the results of such a study, it is possible to argue that destitution as a ‘down ward slide from poverty’ has been increasing in all aspects of the Ethiopian population. Currently the destitute are expected to constitute no less than a third of the Ethiopian rural household population.

3.7.1 Vulnerability indicators

Although the population on the Ethiopian side of the Tekeze-Atbara sub basin has been exposed to vulnerability conditions (e.g. poverty, ecological stress) similar to those experienced by other population groups residing in the Abbay-Blue Nile and Baro-Akobo-White Nile sub basins, the situation here is much more intense and hence deserve special attention. The combined effects of protracted civil strife (in the 1970s and 1980s), war, drought, famine, and population pressure have made the basin population more vulnerable to crisis and this specially vulnerability condition of the basin and its surroundings needs to be taken seriously in any attempt to introduce water-based projects that can benefit the basin population (for more discussion see section 1.2.4).

3.7.2 Food aid as a proxy indicator of poverty

The poverty situation of the basin population on the Ethiopian side can be also assessed food aid as an indirect measure of poverty. According to the 2004 Welfare Monitoring survey, 31.9% and 30.5% of households respectively in the Tigray and Amhara regions were suffering from food shortage over the last 12 months prior to the survey date. Unpublished data from DPPC (2000) also shows that quite a large proportion of rural population in Tigray (36.1%) and Amhara (26.4%) regions were believed to require food aid. This implies that the demand for food among rural population is a direct reflection of

population pressure that could be manifested through population density in km² in each of the administrative zones. More importantly, the decline for food aid in 2005, the year known for good harvest due to sufficient rain, is an indicator of the impact of climate on production of rain-fed agriculture.

3.7.3 Nutritional Status of the basin population

The proportion of child malnutrition is often taken as another indirect measure of the socio-economic status of the population. Verifying this argument, the Central Statistical Authority (2004: 39) indicates, “Children are chosen for the purpose of anthropometric analysis for they are more susceptible to nutritional deficiencies, which could be an indication of lower welfare status of households”. Based on the results of the Welfare Monitoring Survey findings located in the rural parts of the basin area, the proportion of wasted¹⁵, stunted¹⁶ and under-weight¹⁷ is provided in Figure. Accordingly, both regions have higher percentage of stunted and underweight children though there is variation between the regions. The lowest stunted proportion is observed in Tigray (47.9% in 2005), but 56.6 % is observed in Amhara Region in the same years indicating that vulnerability among children is high in the Amhara region (Figure 14).

Assessment of the poverty situation in the basin area has also showed that wealth and poverty are not distributed equally among various social groups. For instance, farmland is concentrated in the hands of the older generation than the young (CSA, 2003) and the plough farming system continued to marginalize females from the management of the land, even if their right to use the land is preserved upon divorce or death of their husbands. The chances of being poor or destitute are greater for certain segments of the population basically due to socio-economic differentials among residents of the area. It is, therefore, possible to argue that the likelihood to fall into poverty and the capability to avoid or move out of poverty varies according to someone’s position in the prevailing social structure. It is, thus, important to identify who is poor and vulnerable in terms of gender, age, household type, occupation, ethnicity/religion and other socio-economic characteristics within the context of the river basin.

¹⁵ *Low Weight-for-height*

¹⁶ *Low Height-for-age*

¹⁷ *Low Weight-for-age*

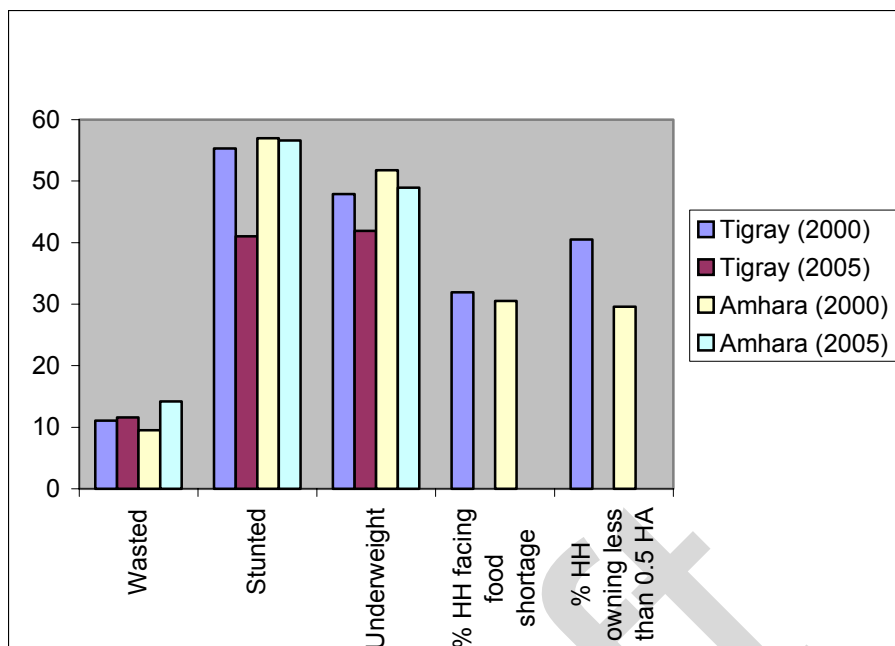


Figure 14: Selected indicators of poverty in the Tekeze basin

Additional database is required to understand the poverty and vulnerability situation of the Basin and other related issues (Box 18).

Box 18: Some data gaps identified during the socio-economic synthesis

- *Magnitude and dimension of poverty along the basin*
- *Socio-cultural and structural factors of poverty*
- *Indicators of vulnerability*
- *Socio-economic status of different groups in the basin*
- *Household and local level coping mechanisms*
- *Existing basin-level transboundary resources (e.g. pastures)*
- *Opportunities for initiating projects having transboundary benefits*
- *Policy options in tackling poverty*

3.8 Conflict and Conflict Management in Tekeze River Basin

In order to understand the dynamics of conflicts and coping strategies among the basin area societies, it is important to identify the main types and levels of disputes and the corresponding customary institutions involved in conflict resolutions. It is thus equally important to have detailed data about the process of how inter-group conflicts arise, develop, lead to crisis and are resolved in the given context, thereby understand the local perception of value difference. Diversity is one of the basin population's outstanding characteristics in terms of ethnicity, socio cultural value system, livelihood strategy, and the natural environment. In other words, it represents a wide variety of social and natural

settings, which determines the nature and control of conflicts occurring between various groups.

Sub-group disputes within communities and inter-community as well as inter-ethnic disputes have been the most common conflicts occurring among the basin societies. Accordingly, multiples of contributing factors were involved in triggering and aggravating such inter-group conflicts. The most common inter-community conflicts were between farming communities (farmer-farmer), farming and pastoral/agro-pastoral societies (farmer-herders/ shifting cultivators), and pastoral communities (herder-herder) (Tesfaye, 2003).

A team of researchers consisted of eight academics from the University of Khartoum conducted a UNICEF-sponsored study under the theme **Analysis of Nine Conflicts in Sudan**. The causes of conflict in the Sudan, according to the study, are to be found in the conflict between the pastoral communities, and the agricultural settled communities. The majority of the pastoral communities occupy arid and semi-arid lands, characterized by frequent and prolonged droughts. Many factors have increased the development of seemingly insignificant disagreements or disputes into potential violent social and political upheavals triggering devastation on a massive scale. Communities have been shredded apart by these conflicts, entire societies are ripped apart; women and children are the main victims.

It is observed that conflicts in Sudan have been a significant cause of increased poverty and displacement, violations of human rights and environmental degradation/depletion of natural resources. Poverty, unequal distribution of land, and the degradation of ecosystems are among the most pressing issues undermining community security. The basin population is vulnerable to problems of differential access to farmland, grazing land, water, forests, and mounting population pressure believed to cause conflict among different community groups in the region.

3.9 Development Projects

The Tekeze-Atbara basin has witnessed a number of development projects involving the agriculturally fertile land and water resources of the basin, especially on the Sudan side of the basin. On the Ethiopian side, the Tekeze basin has seen little by way of water development interventions, apart from the Tekeze hydroelectric power-generating scheme still under construction. Therefore, the presentation here focuses on one major development project established on the Atbara side of the basin in Sudan; that is, the New Halfa scheme, formerly known as the Khashum El Girba scheme, which was established in 1964. The project was to contribute to an increase in export earnings by production of cotton and groundnuts and make the national economy less dependent on food imports by production of wheat and sugar. Sugar is produced on a state-owned plantation while tenants grow other crops on 15 feddan (= 6.3 hectares) farms. Tenancies are given on

lease basis to selected applicants, and tenants are not allowed to cultivate other crops on their holdings, nor to feed herds of animals inside the scheme, except one cow and 5 goats /sheep.

The management of the farm is government by a system of division of responsibilities that exist between management (The Agricultural Production Corporation) and tenants, particularly with respect to cotton production. The corporation is responsible for the overall development, and the various operations are carried out partly by the management, partly by the tenants who may employ hired labor. Thus production on the scheme is scheduled with tight timetables, and the core feature is the organization of centrally controlled, technical service upon which production on the holdings depends. Tenancies are arranged for the convenience of operation of the central service and irrigation, which is the responsibility of the Ministry of Irrigations branch offices at Khashm el Girba and New Halfa. The Scheme is provided with irrigation water through an integrated network, which comprises the following components:

- Khashm El Girba Dam (on Atbara river)
- Main canal
- Branches
- Major canals
- Miner canals
- Small canals
- Field channels
- Drainage system network

The flow in this complex network, from the dam up to the collector and escape drain, is basically by gravity (as the Gezira scheme described bellow), except a very small part at the beginning of the Scheme, where pumping, from the main canal, is used to irrigate about 28600 fed. (7% of the total area) of relatively high land that could not be commanded by gravity. Khashm El Girba dam was constructed to control the torrential behavior of the flow of Atbara River, which commences in six month, July-December. About 85% of this flow takes place in three months. The main functions of the Dam are:

- Provide irrigation water for New Halfa agricultural corporation,
- Sugar farm and other irrigation water users
- Limited hydro electrical generation
- Provide drinking water for the New Halfa town and villages in the scheme

The designed storage capacity of the Dam is 1.3 milliards cubic meters. The Dam was the first phase in a series of dams for the full utilization of this valuable water resource. It was anticipated that a second dam would be needed after 30 years to compensate the expected storage loss due to situation in the reservoir of this dam. A third dam shall be needed after another 30 years later. According to the last survey conducted in 1993, the Dam capacity had drastically decreased to only 0.6 millions cubic meters. It is believed that the reservoir has reached regime storage and no more reduction of storage is expected. The annual water balance in the last 10 years confirmed this.

The Sudan Government is the owner of all the water infrastructures operated by the Scheme. New Halfa Agricultural Corporation (NHAC) is responsible for the management and maintenance of minor and small canals while the Ministry of Irrigation (MOR) is responsible for the Dam, main canals branches and minor canals that serve all users.

The distribution of tenancy is as follows: Among the Nubian (who were transferred from Old Halfa because of the building of Swan Dam), holdings were to be distributed according to a priority system based on: (1) Ability to cultivate, (2) reliance on agriculture as a means of support, (3) dependent family, (4) residence in the Scheme, and (5) extent of freehold land already held (when they were in Old Halfa). In practice, however, most people who were married, had family and a house in Old Halfa, were given tenancies: teachers, clerks, cooks and drivers along with those who used to be active cultivators

In the nomadic areas, there could be no distribution of lands based on earlier agricultural experience, and the government worked mainly through the native administration- who in some cases have been accused of appropriating lands primarily for themselves and their families.

3.9.1 Lessons drawn from the Development Scheme

Since its establishment in 1964, the Scheme has proved disappointment to both the Sudanese Government and the tenants, and at present situation is more serious. Yields have been low and fluctuating, and production costs are steadily rising with no comparable price hike. Tenant households, now more than ever, are unable to live off one tenancy only and must either have other sources of income, cultivate several tenancies, or leave the Scheme.

Other reasons for failure include:

- Khash El Girba dam, which was designed to hold 1.3 billion cubic meter of water, has had its capacity reduced every year due to silting by alluvial deposits from the Atbara River. In 1975 the capacity of the Dam was 0.75 billion cubic mere, while in 1997 was 0.6 billion cubic meter
- Variability of rainfall: Crop production fluctuates enormously due to climatic reasons, and in the nomadic areas, the rate of fluctuation reached as much as 30%. The critical period is July-September, when the rainy season sets in at the same time as cotton and groundnuts are sown. Precipitation sometimes obstructs agricultural operations and makes access to the fields impossible. Usually there are continuous rains up to the first week of September, and it is impossible not only to carry out the different operations on time but also to clear the weeds that grew very fast
- Weed infestation: Weed is a major threat to the Scheme. The reasons for weed infestation are many, including high rainfall, fallow lands functioning as breeding areas, lack of equipments, lack of heavy sub-soil ploughs and insufficient allocations for control operations. The cleaning of weeds becomes a share of the

- production costs for each tenancy. Conferences are held between the Scheme administration and the tenants to agree on how to control weeds
- Other problems relate to the kind of crops cultivated, especially groundnut which both the Nubian tenants as well as the nomad tenants are reluctant to cultivate. Also the problem of animal trespass specially during the dry season (December to April/ May) when the Schem has to be protected against animal trespass. The police and sometimes the Sudanese Army are used to defend the Scheme from animal trespass.

Draft

Annotated Bibliography (Tekeze-Atbara Sub-Basin)

Introduction

The purpose of this list is to provide an overview of some of the sources of social, hydrological and environmental data for the Tekeze-Atbara sub-basin of the Eastern Nile. These data sources have been used for a wide array of purposes by a wide array of government, private and university entities. Thus the use of any secondary material should be approached from a user-beware perspective. While some of the works have been consulted in the preparation of this inventory on the socio-economic theme, the list is not exhaustive and there no doubt exists sources that have not been included. However the list does include some of the most recent references on the Ethiopian side of the 'sub-basin population. Reference materials on the on the Sudanese portion of the sub-basin is very scanty and future research should be able to fill the existing gap.

Most of the references listed here can be accessed from government, private and university institutions of the respective sub-basin countries, namely Ethiopia, and Sudan. Some data sets (national population census reports) can be available in soft copies or a few are on-line resources. Users are advised to contact the relevant/ affiliate institutions where the data is likely to be stored or housed. The listed references are organized into the following categories: institution/regulatory regimes, population characteristics, occupation and employment, social and physical infrastructure. Each category is preceded by a brief description of the nature of information contained under the listed annotated bibliographies.

1) Regulatory regimes governing natural resources

The works listed below cover information on the different land tenure regimes and also recent attempts to reform land tenure regimes.

Amhara National Regional State (2000). Proclamation Issued to Determine the Administration and Use of Rural Land in the Region. Proclamation No 46/2000 Zikre Hig. Bahir Dar.

Bauer, Dun (1973). Land Leadership and Legitimacy among Inderta Tigray of Ethiopia. Rochester, University of Rochester (Ph.D. Thesis)

Bruce J. W. (1976). Land Reform Planning and Indigenous Communal Tenures. A Case Study the Tenure " Chiguraf-gwoses" in Tigray, Ethiopia. Madiso, University of Wisconsin (PhD Thesis)

Dejen Negassa (2001) The Implementation of State Policy on Land Pressure and Intra-Household Relation: The Case of South Wollo. MA Thesis in Social Anthropology, AAU.

HOBEN, Allan (1966). Land Tenure and Social Mobility among the Amhara, Conference III, 1966 (69-87).

Mitiku Haile, Eyasu Yazew and Gimay Tesfaye (2001) Land Tenure and Plot Size: Determination Issue in Small Scale Development in Tigray, North Ethiopia. Paper

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Tigray National Regional State [1997]. Proclamation to Define Land Use of Tigray National Regional State. Proclamation No 23/1989 (EC), Neghrit Gazeta. Mekale.

2) Population Characteristics: Size, Age and Sex Structure, Fertility, Mortality, Ethnic and Religious Composition of the Population in the sub-basin

The following sources provide information on population size and distribution by age and sex at regional levels classified by rural and urban place of residence for the year 1984. Total Population of urban and rural areas by Awrajas, weredas and kebele or Peasant Associations (PAs) are also provided in the report. The reports, moreover, indicate actual and projected distribution of population size by age, sex and place of residence.

These reports also contain sex ratios by five-year age groups for urban and rural areas at regional level for the year 1984. Sex ratios for different religions groups are also given. These reports also contain number of deaths by sex and age group, crude death rates, age specific death rates by sex and urban and rural place of residence at regional level for the year 1984. Abridged life table, children dead and surviving, estimates of infant and childhood mortality levels along with implied life expectancy derived using different methods are also provided in the reports.

The reports also contain population size and distribution by age and sex at regional, zonal, wereda and kebele levels classified by rural and urban place of residence for the year 1994. The reports indicate actual and projected population size on the basis of the census enumeration. These reports also contain sex ratios by five-year age groups and place of residence at regional level for the year 1999. The reports also provide projected population size for each of the years during 1995 to 2030 for total population classified by sex and place of residence. Projected population by five-year age group is also provided for 1995 to 2000 every year, but every five years then after.

*Some of the reports contain numerical and percentage distribution of major ethnic groups (10,000 population or more) and religion affiliations by age, sex and place of residence at regional, zonal and wereda levels **and some of the towns with large population size.** The reports also contain level **of migration by sex and place of residence**, stream of in- and out- migration rates by place of residence and sex. It also presents forms of migration by sex and place of origin for the year 1984. Information, however, is available at the then administrative region level.*

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gonder Region, Central Statistical Authority: Addis Ababa.

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- CSA (1995). The 1994 Population and Housing Census of Ethiopia. Results for Amhara Region. Vol. I. Statistical Report, Central Statistical Authority: Addis Ababa, pp 11-16.
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- CSA (2004). Report on Urban Bi-Annual Employment Unemployment Survey October 2003 1st Year Round 2, Central Statistical Authority: Addis Ababa.
- CSA(2000) Ethiopia Demographic and Health Survey 2000, Central Statistical Authority: Addis Ababa.

3) Employment/Occupation Characteristics/Livelihood Profile

*These reports contain the distribution of working age population by economic participation status and activity rates, unemployed population and unemployment rates by age group and sex at regional level and **major urban centers**. The reports also present numerical and percentage distribution of employed and unemployed persons and reasons for not engaging in the labor force by sex and place of residence at regional levels and some of the major urban towns for the year 1984. The reports also contain employment status, occupation and industrial characteristics of the employed people by educational level; and the age as well sex characteristics of the unemployed population.*

The reports also contain major occupational and industrial distribution of the economically active population in Ethiopia including skilled and unskilled labour in agriculture, livestock, hunting and fishing, as well as jobs taken as primary activity by sex, age group and place of residence at regional level for the year 1994. The reports also contain minor occupational and industrial distribution of the economically active population by sex and place of residence at regional level.

Also some of the reports contain the type of holding (mixed, crop only and livestock only) of agricultural holders by sex and place of residence at regional, zonal and wereda level for the year 2001/01. The reports also show working status and reasons for not working among the population in the agricultural households by sex and place of residence. They also show employment status and type of working by sex and place of residence regional, zonal and wereda level

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gonder Region, Central Statistical Authority: Addis Ababa.

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4) Social and Physical Infrastructure Provisions

These reports contain level of literacy and school attendance status distribution, gross and net enrolment rates by sex and place of residence at regional and zonal levels for the

year 1994. The reports also contain the distribution of those currently attending school by age, sex, grade and place of residence and also show school progression at regional level by sex and place of residence. Age-sex specific enrolment rates as well as gross and net enrolment rates are also given by place of residence at regional level for the year 1984. The reports also show percentage distribution of population by literacy status, and highest grade completed across sex and place of residence at regional and zonal levels.

The reports also provide the total number of hospitals, health centers, and clinics; as well as total number of medical personnel at regional level. The reports also contain distribution of households according to distance to the nearest health facilities (health post, clinic, health center, hospital and pre/post natal care), use of health facilities and reason for not using health facilities by place of residence at regional level for the year 2004. Distribution of households according to level of access to source of drinking water, toilet facility and method of waste disposal in rural areas at regional level and some selected urban centers for the year 1996 is also provided in the reports. Besides, limited data is available on access to roads, credit and markets infrastructure as well as extension services

CSO (1985) Rural Labour Force Survey, 1981-1982, Statistical Bulletin 51, Central Statistical Office, Addis Ababa

CSO (1992) Rural Labour Force Survey, 1987/88, Statistical Bulletin 108, Central Statistical Office, Addis Ababa

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Tigray Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Gonder Region, Central Statistical Authority: Addis Ababa.

Office of the Population and Housing Census Commission (1990). Population and Housing Census 1984. Analytical Report on Wello Region, Central Statistical Authority: Addis Ababa.

CSA (1996). The 1994 Population and Housing Census of Ethiopia. Results for Tigray Region. Vol I: Part III. Statistical Report, Central Statistical Authority: Addis Ababa, pp 10-158.

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- CSO (1976 to 1984) and CSA (1985 to 2004). Statistical Abstract - Ethiopia. Central Statistical Authority: Addis Ababa.
- CSA(2004)Welfare Monitoring Survey, Statistical Report. Indicators on Living Standards, Accessibility, Household Assets, Food Security and HIV/AIDS. Statistical Bulletin 339-C, Central Statistical Authority, Addis Ababa, pp 123-131, 150-161

5) Inequality, Poverty, and Vulnerability Indicators

The following topics cover issues of social inequality, poverty and vulnerability of the Tekeze-Atbara sub-basin.

- Abraham Molla (2004)** Factors Affecting Reproductive Right of Women in Enebsie Sarr Midir District, Amhara Region. MA thesis in Demography. AAU.
- Alemtsehay Aberra (2002)** Household Structure and Coping Strategies Under Food Stress in Saese Tseade Emba Wereda, Tigray Region. MA in Demography AAU. [IESLibrary].
- Ambachew Legesse (1998).** Demographic Response to Household Food Insecurity in North Wollo. MA the submitted to AAU in Demography.
- Asmelash W/Mariam (1995)** The Effects of Land Reform, War and Famine on Peasant Social Organization: A study of Village Level Dynamic in Central Tigray (1974-1995). MA in Social Anthropology, AAU. [SOSA Library].
- Bauer, Dan (1997).** Household and Society in Ethiopia: An Economic and Social Analysis of Tigray Social Principles and Household Organization, East Lansing, African Studies

- Bendz, M. and P.A. Molin (1988):** Trees Grow in Wollo. Ethiopian Red Cross Society Mission Report, Rural Development consultants Ab, Vaxjo, Sulldu.
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- CSA(2000).** Report on the 2000 Welfare Monitoring Survey, Volume I Statistical Bulletin 259, Central Statistical Authority, Addis Ababa. pp 287-293
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- Dessalegn Rahmato [2003]. Some Aspects of Poverty in Ethiopia. Three selected papers. Paper by Desallegn Rehamato, Meheret Ayenew and Aklilu Kidanu Edited by Dessalegn Rahmato. FSS Studies on Poverty No.1
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- Hirut Bekele (2000).** Natural Resource Degradation and the Predicament of Rural Woman: The case of Bugna Wereda, North Wollo. MA. Thesis in Regional and Local Development Studies, AAU.
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- Kiros Gebre Egziabeher (1995)** Gender and Rural Production in Tigray (1974-1995). MA Thesis in Social Anthropology, AAU.
- Mekasha Belete (2000)** Some Factors Affecting Female Pupils' Participation and Academic Performance in Primary Education in Amhara. MA in Curriculum and Instruction, AAU.
- Mulualem Tesema (1998)** Gender Bias Analysis of Primary School Text Book of Amhara Region. MA in Curriculum and Instruction, AAU.
- Poluha, E, (1990)** Risks, Trees and Security: A Baseline Study of Beddedo, A Peasant Association in Wollo, Ethiopia working paper 111, revised, Swedish University of Agricultural Science, International Rural Development Center-IDRC-UPPSALA.

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- Tilaye Kassahun (1997).** Gender Specific Investigation into the Problems of High School Dropouts in the Amhara Region. MA Thesis submitted to AAU.
- Yared Amare (2003) Destitution in Rural Ethiopia. FSS Studies on Poverty No.3 362.5 FSP/3 (Community and HH studies in Wag Hamra and South Wollo).
- Yonas Tefesse, Aberra Ambaye and Zewdie W/Michael (1997).** Nutritional Blindness in Tigray Region, Northern Ethiopia. Pp.157-162.

6) Social Organization, Conflict and Conflict Management

The following annotated publications and research studies could also serve as important sources of data required to assess various aspects of poverty and vulnerability among the sub-basin population.

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- Kelemework Tafere (2000)** The Social Function of Demor: An Indigenous Institution of Conflict Resolution among the Wajirat People in South Tigray. MA Thesis in Social Anthropology, AAU.
- Tarekegn Gebreyesus Kaba (2005).** Change and Continuity in the Traditional Institutions and Mechanisms of Local Governance and Conflict Resolution among the Wejerat: An Ethnographical Analysis.
- Yohannes Berhanu (2005).** Conflict and Conflict Resolution among the Chihera (Micro-Level Studies from Six Village in North Gondor). MA in Social Anthropology, AAU

7) Development project interventions

Most of the works listed below provide information on recent government and non-government efforts to introduce development programs in and around the sub-basin areas and cover issues of resettlement, villagization, extension program, irrigation projects, household food security. Most of the works are research reports and academic papers produced in the form of theses or dissertations.

- Alula Abate, Tegegn Teka, Bayu Chana, Admassu Gebeyehu, Kassu Kinde [1993].** Evolution of the Impact of UNICEF Assisted Water Supply Projects in Bale Haraghe, Shewa, Wollo. Ethio Program Cycle 1980-1993 Memo 243p Addis Ababa. IDR Research Report

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- Hendrie, Barbera (1997)** Managing Famine Disaster: Popular Participation in Tigray: Eritrean Studies Vol. 1, No.1
- Kidane Tekele (1998)** Utilization of Health Service in the Regional State of Tigray. MA Thesis in Human Resource Economic, AAU. [IES Library].
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- Mored (2003b)** Voluntary Resettlement Program (A close to improved land). Vol. II AA. (FSS Library).
- Mulualem Bassie (2001).** Institutional and Administrative Capacity for Development: The Case of Benishangul Gumz National Regional State Efforts, Problems and Prospects. MA Thesis in Regional and Local Development Studies, AAU
- Mulugeta Tassew (1999).** Training and Agricultural Technology Adoption in Resource Poor Area of North Wollo: The Case of Meket Woroda. MA Thesis in Economic Policy Analysis, AAU. [IES Library].

- Relief Society of Tigray (REST) (2001).** Farming Systems, Resource Management and Household Coping Strategies in Northern Ethiopia, Report of Social and Agro-ecological Baseline Survey Study in the Southern and Eastern Zone of Tigray Region.
- Tigray Region Education Bureau (1998).** Quality of Education in Tigray: Survey Research.
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- Tsegabirhan Weldegeorgis (1999)** Estimating Willingness to Pay for Irrigation water: On Contingent Valuation Case Study of Small Scale Irrigation in Tigray. MA Thesis in Economics. AAU.
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Chapter 4

Socio-Economic Features of the Main Nile Basin

4. Introduction

The Main Nile sub-basin covers the entire region once the River Nile crosses the Egyptian-Sudanese boarder, and cuts across Cairo to join the Mediterranean Sea (Figure 15). The Basin accounted for a total population of 50.4 million in 1986, and was projected to reach 79 million in 2006, making the population of Egypt the largest in the entire Eastern Nile region.

4.1 Socio-Economic Regulatory Institutional Setting

4.1.1 Customary and Statutory Laws

Data is rare on customary rules and practices in relation to the management of land and water resources in the Main Nile Basin. However, several different water-related policy/legislative frameworks have been in force in Egypt, one of which is the **National Water Policy Plan**. Approved by the national Assembly in 2005, this document represents the official statement on the position of the Egyptian government on water issues. The document analyzes the policy context and the water resource system including its socio-economic dimensions, the various scenarios of managing the system, the strategy, challenges, and policy implementation plan (Ministry of Water Resources, 2005).



Figure 65: Map of the Main Nile Basin

The second of such legislations are the **Irrigation Laws**. There are two laws governing irrigation practices in Egypt; Law 12/1982 on irrigation and drainage, and Law 48/1982 on the protection of the Nile from Pollution. In 1994, Law 213 was enacted to encourage farmers' participation and organization in water boards and water users associations. The aforementioned two laws are being amended at the moment. The third one is the **Environmental Law**. The law presents specific regulations on water quality. An important element of this law is the establishment of the Egyptian Environmental Affairs

Agency (Government of Egypt, Law 12/1982 on Irrigation and Drainage; Law 48/1982 same as above; Law 213/1994 same as above; Law 4/2000 on Environment).

4.1.2 Institutions and Organizations

In the Main Nile Basin/Egypt, the Ministry of Water Resources and Irrigation (MWRI) is the main agency responsible for water. According to Law 48, the Ministry has the sole legal responsibility for the planning and management of all inland water resources in the country. It is responsible for providing water of suitable quality to all users. (MWRI, Action Plan for Strengthening Irrigation Management in Egypt, 1995). Recently, MWRI issued an Institutional Reform Strategy and a detailed implementation plan, which documents were not available for reference at the time of the writing of the report, according to Mohiedddin, 2006)

Concerned relevant government agencies viewed also as stakeholders in connection with water and water quality are the ministries of local government, health and population, industry and mineral wealth, interior, tourism, environmental affairs, housing utilities and new communities, and agriculture and land reclamation. Other government agencies and authorities are involved in the facilitation of processes directly related to the development projects: Ministry of International Cooperation (is involved in the approval of new loans and grants), Ministry of Planning (approves sector's development budget, new projects and salaries), Ministry of Finance : (approval of annual recurrent budget, maintenance and salaries), National Investment Bank (finances the approved local budget), Central Agency for Organization and Administration (approves organization and job descriptions), and Ministry of Tourism (ensures tourist related shipping on the Nile and water quality along Northern Coasts (Ministry of Environmental Affairs, National Environmental Action Plan, 2002).

More than 200 NGOs are working in the field of environmental protection in Egypt, about 50 of them located in the Nile Delta. The NGOs engage in various fields of environmental protection through awareness campaigns on issues such as rationalizing water consumption, and negative impacts of solid and industrial wastewater disposal in the Nile. One of the most important NGOs is the Arab Office for Youth and Environment, which cooperates with UNEP and UNDP.

Egypt has a number of scientific institutions, which are not directly involved in water quality measurement (WQM), but carry out ad-hoc water quality measurements and provide other scientific inputs that may contribute to the assessment of the water quality situation in the country. Worth mentioning is the National Research Center (NRC), whose outputs are important to the central information system to be developed by the central WQM unit. There are a number of universities (Ain Shams University, Cairo University, and American University in Cairo) with good environmental science and engineering programs at undergraduate and graduate levels. They carry out basic and applied research on water quality management issues. The research institutes of NWRC offers basic tailor made courses in water quality management. The development of managerial skills (such as communication, team building, negotiation and conflict

handling) are essential for middle management and engineers at MWRI headquarters and in directorates to integrate the various interests of the different stakeholders in the preparation of national and regional WQM action plans.

4.2 Socio-Economic Profile

4.2.1 Population Characteristics

4.2.1.1 *Population Size and Structure*

The population in the Main Nile sub-basin (Egypt) was estimated at 52.5 million in 1990. Annual population growth rate was at the time 2.6 percent, which dropped to 2.4 percent by 2005. Projections indicated that Egypt's population would total 79 million in 2006, with the expectation that it would continue to grow to a figure of 127 million by the middle of the twenty-first century. Table 13 reveals midyear population estimates and annual population growth rates in Egypt from 1950 to 2050.

Table 14: Midyear Population Estimates and Average Annual Period Growth Rates: 1950 – 2050,

Year	Population ('000)	Year	Population ('000)	Period	Growth Rate
1950	21,198	2005	77,506	1950-1960	2.4
1960	26,847	2006	78,887	1960-1970	2.2
1970	33,574	2007	80,265	1970-1980	2.4
1980	42,634	2008	81,636	1980-1990	2.9
1990	56,694	2009	82,998	1990-2000	2.2
2000	70,492	2010	84,348	2000-2010	1.8
2001	71,902	2020	97,295	2010-2020	1.4
2002	73,313	2030	109,044	2020-2030	1.1
2003	74,719	2040	119,010	2030-2040	0.9
2004	76,117	2050	126,921	2040-2050	0.6

Source: U.S. Census Bureau, International Data Base, April 2005 Version.

Egypt's overall population density, defined as the total number of people per square kilometer, in 1990 was only about fifty-four people per square kilometer. However, close to 99 percent of all Egyptians live along the banks of the Nile River in 3.5 percent of the country's total area. The average population density in the Nile Valley exceeds 1,500 per square kilometer, one of the world's highest densities. In this respect, the country's capital, Cairo, is unparalleled.

According to the 1996 census, 51.1 percent of Egypt's population was male and 48.9 percent female. More than 34 percent of the population was twelve years old or younger, and 68 percent was under age thirty. Fewer than 3 percent of Egyptians were sixty-five years or older. Table 14 indicates midyear projections of population size in Egypt by age and sex for 2005 and 2025.

Table 15: Midyear Population, by age and Sex: 2005 and 2025 (Population in thousands)

2005				2025		
Age	Total	Male	Female	Total	Male	Female
Total	77,506	39,094	38,411	103,353	51,980	51,373
0-4	8,738	4,474	4,264	8,718	4,464	4,255
5-9	8,736	4,475	4,261	8,673	4,441	4,233
10-14	8,115	4,156	3,959	8,671	4,439	4,232
15-19	7,827	4,002	3,825	8,665	4,434	4,232
20-24	7,256	3,682	3,575	8,624	4,409	4,215
25-29	6,629	3,385	3,244	8,638	4,411	4,227
30-34	5,863	3,072	2,791	8,001	4,080	3,921
35-39	5,108	2,634	2,473	7,691	3,911	3,780
40-44	4,339	2,152	2,187	7,099	3,577	3,522
45-49	3,762	1,854	1,907	6,436	3,258	3,178
50-54	3,211	1,582	1,629	5,607	2,903	2,704
55-59	2,587	1,256	1,331	4,750	2,402	2,349
60-64	1,922	912	1,010	3,844	1,839	2,004
65-69	1,447	664	783	3,065	1,425	1,640
70-74	1,011	442	569	2,264	1,015	1,249
75-79	580	233	343	1,445	598	846
80+	375	119	256	1,162	375	787

Source: U.S. Census Bureau, International Data Base, April 2005 Version.

In 2005, average life expectancy at birth was estimated at 71 years, up from fifty-nine years for men and sixty years for women in 1989. The infant mortality rate was put at 33 deaths per 1,000 live births down from 94 deaths in the late 1980's.

The demographic indicators of the Main Nile Basin/Egypt are summarized in Table 15 for 2000 and 2025.

Table 16: Demographic Indicators: 2000 and 2025

Indicators	2000	2025
Births per 1,000 population	26	17
Deaths per 1,000 population	6	6
Rate of natural increase (percent)	2.0	1.2
Annual rate of growth (percent)	2.0	1.1
Life expectancy at birth (year)	69.5	76.0
Infant mortality rate per 1,000 live births	40	15
Total fertility rate (per woman)	3.2	2.2

4.2.1.2 *Ethnic and Religious Composition*

In the Main Nile, the people of Modern Egypt are said to have descended from the ancestors of many races and ethnic groups, including Africans, Arabs, Berbers, Greeks, Persians, Romans, and Turks. Regardless of such diverse ethnic and racial backgrounds, however, the population today is linguistically and culturally homogeneous in relative terms. Throughout their history, the Egyptian people spoke only languages from the Afro-Asiatic family, previously known as Hamito-Semitic, starting with Old Egyptian to modern Arabic. Linguistic minorities exist nevertheless, and account for 3 percent of Egyptian population. These include: Armenians and Greeks, principally in the cities of Cairo and Alexandria; groups of Berber origin in the oases of the Western Desert; and Nubians in cities in Lower Egypt and in villages clustered along the Nile in Upper Egypt. The Arabic speaking nomadic Bedouins in the Western and Eastern Deserts and the Sinai Peninsula constitute the principal cultural minority.

In 1989 an estimated 350,000 Greeks constituted Egypt's largest non-Arab minority. Greeks have lived in Egypt since before the time of Alexander the Great. For centuries they have remained culturally, linguistically, and religiously separate from the Egyptians. In 1990, the majority of Greeks lived in Alexandria, although many resided in Cairo. Armenians have also lived in Egypt for several centuries, although their numbers have declined as a result of massive emigration since the 1952 Revolution. In 1989, the Armenian community in Egypt was estimated at 12,000. Cairo was traditionally the center of Armenian culture in Egypt, but many Armenians also lived in Alexandria. An estimated 6,000 Egyptians of Berber origin lived in the Western Desert near the border with Libya. They were ethnically related to the Berber peoples of North Africa. The largest Berber community lived in Siwah Oasis. The Berbers are Muslims with certain unique cultural practices of their own, and speak a language not related to Arabic.

Other ethnic minorities include a small number of Bedouin Arab nomads in the Sinai and eastern and western deserts, as well as some Nubians clustered along the Nile in Upper Egypt who are estimated to constitute 0.8% of the population. About 160,000 Nubians, also Muslims, lived in Egypt in 1990. Most Nubians lived in cities, especially Cairo, Alexandria, and urban areas along the Suez Canal. In the past, Nubians had lived in villages along the Nile from Aswan southward to about 500 kilometers inside Sudan. Before the construction of the Aswan High Dam forced their resettlement, three linguistically separate groups of Nubians lived in this region: the Kenuzi in northern Nubia; the Bedouin-descended Arabs in central Nubia; and the Fadija-speaking people in southern Nubia near Abu Sombul (Abu Sombul). Egypt's largest minority group consisted of several tribes of Bedouins who traditionally lived in the Eastern and Western Deserts and the Sinai Peninsula. Because the Bedouins spoke Arabic dialects, the government did not consider them ethnic minorities. Nevertheless, almost everyone in Egypt, including Bedouins, considered these people as culturally distinct. The Bedouins have historically been nomads, but since the nineteenth century, most tribes have adopted sedentary agricultural lifestyles, in response to various government incentives. In 1990, the total number of Bedouins in Egypt ranged between 500,000 and 1,000,000, less than 1 percent of the country's population.

The majority of the inhabitants of the Main Nile Basin, Egyptians to be precise, are Sunni Muslims. They constitute at least 90% of the population, and in other claims 94% to 96%. The Copts, an indigenous Christian group, constitute Egypt's largest religious minority. Estimates of their numbers in 1990 ranged between 3 million and 7 million. The exact size of the Coptic community in Egypt is a highly contested issue, Muslims and Copts claiming different figures. Other religious groups include Catholics and Protestants. A very meager minority of Jews not exceeding one hundred individuals down from about 80 to 100 thousands in the early 1950's still live in Egypt.

4.2.2 Livelihood Profile and Employment Characteristics

4.2.2.1 *Livelihood Profile*

For most of Egypt's history, its economy was based almost entirely on farming, despite the fact that more than 95 percent of the country's land area is infertile desert. Long an exporter of cereals, in the 19th century, Egypt began to specialize in growing cotton, which is still an important cash crop (Mohieddin, 2006). In the late 20th century, other important sources of revenue included tourism, oil production, and remittances from Egyptians working mainly in the Persian Gulf states. Egypt's labor force of 26.7 million is 69 percent male and 31 percent female. The largest proportion of the labor force works in the services sector which employs 49 percent of all workers, followed by agriculture and fishing, employing 30 percent of the work force, and industry (including manufacturing and construction) 21 percent. There are few skilled workers, since training is usually rudimentary and one-third of the adult population is illiterate (Mohieddin, 2006).

Available data also show a significant increase in the employment capacity of the private sector which includes farm and non farm activities. The Government bureaucracy comes in second place as an employer next to the private sector. Of late, however, this sector, which has been an absorber of a large labor force in Egypt, is on the decline. The social service sector continues to be an important and growing source of employment for both men and women. Social service is the only sector in which the rate of growth of new jobs for women is increasing. Manufacturing is another important source of employment, particularly for men, but the rate of growth in the sector has been slow. Trade, tourism, finance and insurance are promising areas for the expansion of the employment market. The transport and storage sector experienced some increase in labor absorption, but represents only 6% of the total employment. The construction sector, which witnessed a boom in labor absorption in the 1970's, had slower employment growth in the 1990's, but still offers employment opportunities. That said, the most important source of new jobs for both men and women continues to be agriculture-related occupations.

When it comes to the comparative importance of economic sectors, the agricultural sector, fishing included, contributed 16 percent of the GDP in 2003. Before industrialization, agriculture provided most of Egypt's exports, but by 2002 it contributed

less than one percent of the exports (Mohieddin, 2006). The most important crops include cotton, cereal grains, fruits and vegetables, and animal fodder. Egypt's area of cultivable land is small but highly fertile. It is located for the most part along the Nile and in the Nile Delta. Yields are high, and almost every piece of land growing at least two crops a year. The country ceased to be self-sufficient in cereals at the beginning of the 20th century, although it still exports some poultry, fruits, vegetables, sugar, and rice. It now imports about a quarter of the cereals it needs and a much higher proportion of the meat and dairy products. Fishing is a significant industry in Egypt. Large quantities of fish live in the Nile, the Mediterranean Sea, and the Red Sea. The Government of Egypt places great importance on the agricultural sector, recognizing its significant role in the national economy. It accounts for about 20 percent of both GDP and total exports, and about 34 percent of total employment. The agricultural sector contributes to the overall food needs of the country and provides the domestic industry with agricultural raw materials. It promotes industrial development through expanding the market for industrial goods such as pesticides, chemical fertilizers, equipment and machines. Also, agriculture helps in financing economic and social development through the net capital outflow from agriculture to other sectors of the economy.

Industry, including manufacturing, mining, and construction, contributed 34 percent of the GDP in 2003. The main manufactured goods are textiles, chemicals, metals, and petroleum products. More liberal economic policies have led to the establishment of a number of private companies involved in automobile assembly, electronics, consumer durable goods such as refrigerators and other appliances, and pharmaceuticals. The majority of factories are concentrated around the two major cities of Cairo and Alexandria and in industrial zones along the Suez Canal.

Petroleum is Egypt's most important mineral product. It is a major source of export earnings. In the 1980s, the government developed the production of natural gas for domestic energy needs. It began exporting natural gas in the 1990's. The main oil and gas fields are located along the Red Sea coast and in the Libyan Desert. Other minerals produced in Egypt include phosphate rock (a source of fertilizer), iron ore, and salt.

The service sector contributed 50 percent of the GDP in 2003. Important services include government social services such as health and education, financial services, and personal services.

Tourism is the other important economic sector, attracting as many as 5.7 million tourists into the country in 2003, thus providing the nation \$4.6 billion in revenues. The majority of visitors make a tour to Cairo, the great pyramids nearby, and the sites of other ruins and artifacts of ancient Egypt up the Nile. Many tourists also visit Egypt's Red Sea resorts to take advantage of the warm winter weather. In 1992 attacks on foreigners by Islamic extremists scared off most tourists, but the industry soon recovered. The tourism industry is made up entirely of privately owned businesses.

4.2.2.2 *Employment Characteristics*

In the Main Nile (Egypt), existing data indicate that unemployment levels are increasing among new entrants into the labor market. The rate of unemployment is highest among those who are 15-30 years old (30% unemployment, compared to an overall level of 8-9% according to official statistics). Almost 95% of the unemployed are new entrants into the labor market. The average duration of unemployment is highest among the youth, reaching 39, 63 and 65 months for the age group 20-25 years, 25-30 years and 30-40 years respectively.

There are significant discrepancies in the unemployment estimates from different sources. The overall unemployment rate was 8% in 1999/2000 according to official estimates, while unofficial estimates suggest that it had reached almost 12%. (Assad, R. 1999; Nassar, H. 1999, Nassar, H. 2001). In 2001/2002, it reached 9.2% according to 2001 census (Labor force Survey, 2001).

Box 19

The relationship between unemployment and educational attainment appears to be negative as the incidence of unemployment is highest among those with intermediate education (70.2%), followed by those in university (18.2%). In 2001, unemployment rate remained the highest among those with intermediate education to reach 65.4% among males and 72.9% among females, followed by those having university and higher than university education reaching 24.6% among males and 18.6% among females.

Information on employment in the late 1980s in the informal sector, which included small-scale manufacturing, handicrafts, personal services, retailing, and other ill-defined activities, was not available. Activities of the sector were not registered, and participants changed their jobs frequently. Most of those considered unemployed probably engaged in one or another of these activities; hence, the size of the informal sector was most likely to expand as unemployment increased at the close of the decade. Mobility between the informal and the formal sectors was effectively nonexistent; those who joined the informal sector overwhelmingly remained there.

Box 20

There are formidable challenges facing Egyptian employment prospects in the future. To name a few: A rapidly growing labor force at a rate faster than the population growth rate and a relatively low GDP growth rate; mismatch between labor market requirements and educational output; insufficient job creation in the formal sector and productive sectors; demand/supply imbalances; the training/productivity problem in an outward oriented economy; and high unemployment rate and persistent under-employment

Employment grew at a slower rate than did the population and the labor force, resulting in a worsening unemployment situation. According to official accounts, the rate of unemployment increased from 2.8 percent in the period from 1975 to 1977 to about 12%

in 1986. The figures probably understated the problem, because other informed sources put the rates at 20% to 25% in 1987 and 1988. Analysts adduced a multitude of reasons for the rapid increase in unemployment, including high population and low economic growth rates, inability of industry to absorb larger numbers of workers, high capital intensity in new industrial enterprises, the focus of the 1980s Five-Year Plan on the infrastructure, and the return of Egyptians formerly working abroad.

In addition to unemployment, economists drew attention to underemployment, or disguised unemployment, which represents the proportion of employed people with the desire and ability to perform additional hours of work, but without access to further work opportunities at the existing wage rate during a particular reference period. There was a consensus that underemployment was rampant in the government bureaucracy, because of overstaffing and low remuneration. In 1990, the government was considering paying private-sector employers a two year salary for every new graduate they hired. It viewed the measure as a means of checking the expansion of the bureaucracy and ameliorating the unemployment problem.

Although Egypt had a high percentage of high-school and college graduates, the country continued to face shortages in skilled labor. Probably 35% of civil servants and 60% of persons in public-sector enterprises were unskilled. The lack of skilled labor was blamed on, among other things, the cultural bias against manual work, the theoretical nature of courses in most higher education institutions, and the emigration of skilled personnel abroad, where they received higher wages. There were complaints that the implementation of development plans was hampered by the insufficient supply of skilled labor (Mohieddin, 2006).

4.2.3 Social and Physical Infrastructure

4.2.3.1 *Educational Services*

In the Main Nile (Egypt), by the academic year 1985-86, about 84% of the primary-school-age population (more than 6 million of the 7.2 million children between the ages of seven and twelve) were enrolled in primary school. Less than 30% of eligible youth, however, attended intermediate and secondary schools. Since as many as 16% of Egyptian children were receiving no education in the 1980s, the literacy rate continued to lag behind, despite the increase in school enrollments; in 1990 only 45% of the population could read and write.

Law No. 139 of 1981, which defined the structure of pre-university public education, made the nine-year basic cycle compulsory. Regardless of this law, most parents removed their children from school before they completed ninth grade. The basic cycle included six years of primary school and three years of intermediate school. Promotion from primary to intermediate school was contingent upon obtaining passing scores on special examinations. Admission to the three-year secondary cycle (grades ten through twelve) also was determined by examination scores. Secondary students chose between a general

(college preparatory) curriculum and a technical curriculum. During the eleventh and twelfth grades, students in the general curriculum concentrated their studies on the humanities, mathematics, or the sciences. Students in the technical curriculum studied agriculture, communications, or industry. Students could advance between grades only after they received satisfactory scores on standardized tests. The Ministry of Education, however, strictly limited the number of times a student could retake an examination.

Various government ministries also operated training institutes that accepted students who had completed the basic cycle. Training institute/programs, which incorporated both secondary and postsecondary vocational education, varied in length and provided certificates to students who successfully completed the prescribed curricula. Teacher-training institutes, for example, offered a five-year program. In the academic year 1985-86, approximately 85,000 students were enrolled in all training programs; 60 percent of the enrollees were women.

As of 1990, problems persisted in Egypt's education system. For example, the government did not enforce laws requiring primary-school-age children to attend school. In some areas, as many as 50% of the children who enrolled in primary school failed to attend class regularly. There were also significant regional differences in the primary-school enrollment rate. In urban areas, nearly 90% of the school-age children attended, whereas in some rural areas of Upper Egypt, only 50% percent did.

Box 21

Although increases in the number of girls enrolled in school were greater than they were for boys in the 1960s and 1970s, boys still outnumbered girls at every educational level. In 1985-86, for example, only 45% of all primary students were girls. An estimated 75% of girls between the ages of six and twelve were enrolled in primary school compared with 94% of boys in the same age-group.

Overall, only half of the students enrolled in primary school completed the six grade level. The enrollment rate for girls continued to be significantly lower than for boys.

Girls' primary school enrollment was lowest in Upper Egypt, accounting for only less than 30% of all students. Girls also dropped out of primary school more frequently than boys. About 66% of the boys beginning primary school completed the primary cycle, while only 57% of the girls completed all six grades. Girls accounted for about 41% of total intermediate school enrollment and 39% of secondary school enrollment. Among all girls aged twelve to eighteen in 1985-86, only 46% were enrolled in school.

The shortage of teachers was a chronic problem, especially in rural primary schools. Under British rule, educated Egyptians had perceived teaching as a career that lacked prestige. Young people chose this career only when there were no other options, or when it would serve as a steppingstone to a more lucrative career in law. Despite improvements in training and salaries, teaching, especially at the primary level, was perceived as a low-status career. In 1985-86, Egypt's primary and secondary schools employed only 155,000

teachers to serve 9.6 million pupils--a ratio of about 62 students per teacher. Some city schools were so crowded that they operated two shifts daily. Many Egyptian teachers preferred to go abroad, where salaries were higher and classroom conditions are better. During the 1980s, the government granted 30,000 exit visas a year to teachers who had contracts to teach in other Arab countries.

Higher education expanded even more dramatically than the pre-university system. In the first ten years following the 1952 Revolution, spending on higher education increased 400%. Between academic years 1951-52 and 1978-79, student enrollment in public universities grew nearly 1,400%. In 1989-90, there were fourteen public universities with a total enrollment of 700,000. More than half of these institutions were established as autonomous universities after 1952, four in the 1970s and five in the 1980s. The total number of female college students had doubled; by 1985-86 women accounted for 32% of all students. In the 1980s, public universities, accounting for roughly 7% of total student enrollment, received more than one-fourth of education-budget spending at the time.

Since the late 1970s, government policies have attempted to reorient postsecondary education. The state expanded technical training programs in agriculture, commerce, and a variety of other fields. Student subsidies were partially responsible for a 15% annual increase in enrollments in the country's five-year technical training programs. The technical institutes were set up to provide the growing private sector with trained personnel and to alleviate the shortage of skilled labor. Universities, however, permitted graduates of secondary schools and technical institutes to enroll as "external students," which meant that they could not attend classes, but are allowed to sit for examinations and to earn degrees. The policy resulted in a flourishing clandestine trade in class notes, overburdening professors with additional exam-related load of work. Further, widespread desire for a university degree led many students in technical institutes to view their curricula as simply a steppingstone to a university degree.

4.2.3.2 Health Services

In the Main Nile (Egypt), the government is reported to have striven to improve the general health condition of the population since the 1952 Revolution. The National Charter of 1962 stipulated that "the right of health welfare is foremost among the rights of every citizen." Per capita public spending for health increased almost 500% between 1952 and 1976. As a result of this spending, the average Egyptian in 1990 was healthier and lived longer than the typical Egyptian of the early 1950s. For example, life expectancy at birth, only thirty-nine years in 1952, had climbed to fifty-nine years for men and sixty years for women by 1989.

The Ministry of Health provided free, basic health care at hundreds of public medical facilities. General health centers offered routine medical care, maternal and child care, family planning services, and screening for hospital admittance. These clinics were usually associated with the 1,300 social service units or the 5,000 social care cooperatives that served both urban and rural areas. In addition, in 1990 the Ministry of Health

maintained 344 general hospitals, 280 specialized health care units for the treatment of endemic diseases, respiratory ailments, cancer and other diseases, and dental centers. There were about 45,000 beds in all government hospitals, plus an additional 40,000 beds available in private health institutes. The number of trained medical personnel was high relative to most middle-income countries. In 1990, there were more than 73,300 doctors in the country, approximately 1 physician per 715 inhabitants. There were also about 70,000 certified nurses. Medical personnel tended to be concentrated in the cities, and most preferred private practice to employment in public facilities. Fewer than 30% of all doctors and scarcely 10% of nurses served in villages.

Although public health clinics were distributed relatively evenly throughout the country, their services were generally inadequate because of the shortage of doctors and nurses and the lack of modern equipment. In both cities and villages, patients using the free or low-cost government facilities expected a lengthy journey and a long wait to see a physician; service was usually impersonal and perfunctory. Dissatisfaction with public clinics forced even low-income patients to patronize the expensive private clinics. In rural areas, village midwives assisted between 50% and 80% of all births. Even when women used the maternal care available, prenatal care was minimal, and most births occurred before trained personnel arrived.

The government also had established 1,300 social service centers and 5,100 social care cooperatives by 1990. The social service centers provided instruction in adult literacy, health education, vocational training, and family planning. The social care cooperatives had similar services and also provided child care service for working mothers, assisted the handicapped, and made transport service available for the elderly and infirm. About 65% of the social service centers were in villages; 65% of social care cooperatives were in cities. In many villages, the social service centers were associated with the local public health clinic and supplemented the primary health care services.

4.2.3.3 Major Human Diseases

Although mortality rates have declined in the Main Nile Basin (Egypt) since 1952, the main causes of death (respiratory ailments and diseases of the digestive tract) have remained unchanged for much of the twentieth century. During the 1980s, diarrhea and associated dehydration accounted for 67% of the deaths among infants and children. Concern about this health problem prompted the government to establish the National Control of Diarrhea Diseases Project (NCDDP) in 1982.

The major endemic diseases in 1990 were tuberculosis, trachoma, schistosomiasis, and malaria. Schistosomiasis, carried by blood flukes and spread to humans by water-dwelling snails, was a major parasitic affliction. Historically, the disease was most prevalent in the Delta, where standing water in irrigation ditches provided an ideal environment for the snails and other parasites. Those working in agriculture were particularly susceptible; their prevalence rate was nearly three times that of non-agriculturists. Debility owing to schistosomiasis could not be calculated accurately; its severity generally varied depending on the infected organs, commonly the bladder,

genitals, liver, and lungs. Treatments for the disease are not always effective, and the main medicines have toxic side effects. The government tried to control the spread of the disease by educating the population about the dangers of using stagnant water. According to the statistics of the Ministry of Health, the incidence of schistosomiasis dropped by half between 1935 and 1966. One of the negative health consequences of the Aswan High Dam, however, was an increase in the incidence of schistosomiasis in Upper Egypt, where the dam has permitted a change from basin to perennial agriculture with its continuous presence of standing water.

Although Egypt is not on the World Health Organization (WHO) list of 22 countries with a high tuberculosis burden, it is considered one of the high-burden countries in WHO's Eastern Mediterranean region. While Egypt has achieved treatment success rates higher than the WHO-recommended target of 85%, the case detection rate of about 50% remains below the 70% target.

4.2.3.4 Drinking Water

In 1990, approximately 25% of the total population, including 36% of all villagers, in the Main Nile (Egypt) did not have access to safe drinking water. Use of unhygienic water was the major cause of diarrhea. In addition, more than 50% of all families lived in homes that did not have inside plumbing. Sewage facilities throughout the country were inadequate. Today the Nile provides almost all the fresh water used by more than 75 million Egyptians living along its banks. The mean annual rainfall is estimated at 18 mm. It ranges from 0 mm in the desert to 200 mm in the northern coastal region. The River Nile is the main source of water for Egypt. Under the 1959 Nile Waters Agreement between Egypt and Sudan, Egypt's share is 55.5 km³/year. Internal surface water resources are estimated at 0.5 km³/year. This brings the total (actual) surface water resources to 56.0 km³/year.

The volume of groundwater entering the country from Libya is estimated at 1 km³/year. Internal renewable groundwater resources are estimated at 1.3 km³/year. This brings the total renewable groundwater resources to 2.3 km³/year. In 1994, the quantity of agricultural drainage water flowing back into the River Nile and becoming available again for withdrawal downstream was estimated at 4 km³/year. In 1994, the treatment of domestic wastewater was estimated at 650 million m³/year and in 1993 about 200 million m³/year of treated wastewater was estimated to have been reused. The quantity of desalinated water was estimated at only 25 million m³ in 1990. In 1993, the total water input was 62.5 km³/year compared to a total water use of 56.9 km³/year. It is estimated that by the year 2000 the total water use will approach 70 km³/year, which is more than the actual water availability. The additional water is expected to be provided by: the construction of the Jonglei canal in the Sudd swamps in Sudan (2 km³), non-renewable groundwater (2-2.5 km³), increasing use of agricultural drainage water (2-2.5 km³), and increase in treated wastewater (1 km³), and improved water management/irrigation efficiency (1 km³) (Mohieddin, 2006).

Egypt has 217 cities that are covered by potable water network 100%, while the sanitation network covers only 38%. There are also 4,617 villages, 43% of which are covered by potable water network while sanitation network is extended to only 11%.

4.2.3.5 Roads and Transport Facilities

Egypt's road and rail network was developed primarily to transport population and was most extensive in the densely populated areas near the Nile River (Nahr an Nil) and in the Nile Delta. Areas along the Mediterranean coast were generally served by a few paved roads or rail lines, but large areas of the Western Desert, Sinai Peninsula (Sinai), and the mountains in the east were inaccessible except by air. The Nile and a system of canals in the Delta were the traditional means of transporting goods, although freight was increasingly carried by truck or rail. The entire system was unable to keep up with rapid population growth, particularly in the large urban areas, and expansion and modernization of all forms of transportation were underway.

In early 1990, Egypt had more than 49,000 kilometers of roads, of which about 15,000 kilometers were paved, 2,500 kilometers were gravel, and the remaining 31,500 kilometers were earthen. By 1996, the total length of roads reached about 64,000 km, of which 50,000 were paved and 14,000 unpaved (The World Fact Book, 2003). The highway system is concentrated in the Nile Valley north of Aswan and throughout the Delta; paved roads also extended along the Mediterranean coast from the Libyan border in the west to the border with Israel. In the east, a surfaced road ran south from Suez along the Red Sea, and another connected areas along the southern coast of Sinai from Suez to the Israeli town of Elat. A well maintained route circled through several western oases and tied into the main Nile corridor of highways at Cairo in the north and Asyut in the south. Large areas of the Western Desert, the mountainous areas near the Red Sea, and the interior of the Sinai Peninsula remained without any permanent-surface roads, however.

The state-owned Egyptian Railways had more than 4,800 kilometers of track running through the populated areas of the Nile Valley and the coastal regions. Most of the track was 1.435-meter standard gauge, although 347 kilometers were 0.750-meter narrow gauge. Portions of the main route connecting Luxor with Cairo and Alexandria were double tracked and a commuter line linking Cairo with the suburb of Helwan was electrified. Built primarily to transport people, the passenger service along the Nile was heavily used.

Less heavily traveled routes provide connections to outlying areas. A coastal route west from Alexandria to the Libyan border was upgraded to allow for increased passenger travel. Tracks along the Mediterranean coast of Sinai, destroyed during the June 1967 War, had been repaired, and service was restored between Al Qantarah on the Suez Canal and the Israeli railroad system in the Gaza Strip. New ferry boats allowed passengers at Aswan, the southern terminus of the Egyptian Railways, to connect with the Sudanese

system. A new line intended to export phosphates was constructed from Al Kharijah in the Western Desert to the port of Bur Safajah.

The southern leg of the forty-two-kilometer Cairo Metro, the first subway system in Africa or the Middle East, was opened in 1987. In 1989, the northeast line became operational, extending from downtown to the suburbs. The city built an east-west route across the Nile to Giza (Al Jizah). The government hoped that the subway construction would relieve the extremely jammed streets, buses, streetcars, and trains.

Although Egypt had sixty-six airfields with paved runways, only the airports at Cairo and Alexandria handled international traffic. Egypt Air, the principal government airline, maintained an extensive international network and had domestic flights from Cairo and Alexandria to Luxor, Aswan, Abu Simbel (Abu Sunbul), and Al Ghardaqah on the Red Sea. In 1983, Egypt Air carried 1.6 million passengers. A smaller, state-owned airline, Air Sinai, provided service from Cairo to points in the Sinai Peninsula. Zas Passenger Service, the newest airline and the only one that was privately owned, had daily flights from Cairo to Aswan, Luxor, Al Ghardaqah, and points in Sinai.

Alexandria was Egypt's principal port and in the early 1990s was capable of handling 13 million metric tons of cargo yearly. Egypt's two other main ports, Port Said (Bur Said) and Suez, reopened in 1975, after an eight-year hiatus following the June 1967 War. Realizing the importance of shipping to the economy, the government embarked on an ambitious plan in the late 1980s to build new ports and increase capacity at existing facilities, including the construction of a facility capable of handling up to 20 million metric tons of cargo just west of Alexandria. Bur Safajah on the Red Sea was being developed to handle phosphate exports, and the first stage of a new port at the mouth of the Nile's eastern Damietta (Damyat) tributary was opened in 1986.

Egypt had about 3,500 kilometers of inland waterways. The Nile constituted about half of this system, and the rest was canals. Several canals in the Delta accommodated ocean-going vessels, and a canal from the Nile just north of Cairo to the Suez Canal at Ismailia (Al Ismailiyah) permitted ships to pass from the Nile to the Red Sea without entering the Mediterranean Sea. Extensive boat and ferry service on Lake Nasser moved cargo and passengers between Aswan and Sudan.

The Suez Canal was Egypt's most important waterway and one of the world's strategic links, being the shortest maritime route between Europe and the Middle East, South Asia, and the Orient. A series of proposals for a canal between the Mediterranean and the Red Sea had been made as early as the fifteenth century by the Venetians, and Napoleon ordered the first survey of the region to assess a canal's feasibility in 1799. After several subsequent studies in the early nineteenth century, construction began in 1859. After ten years of construction and numerous unforeseen difficulties, the canal finally opened in 1869. The canal extends 160 kilometers from Port Said on the Mediterranean to a point just south of Suez on the Red Sea. It can handle ships with up to sixteen meters draught; transit times through the length of the canal averaged fifteen hours. Traffic patterns have changed considerably over the last century, reflecting different global priorities:

passenger transit has dropped while the movement of goods, especially petroleum, has increased dramatically. It was estimated that before the 1967 Arab-Israeli War, 15 percent of the world's total sea traffic passed through the canal.

4.2.4 Vulnerability Indicators

In the case of the Main Nile (Egypt), vulnerability is discussed with emphasis on the social, cultural, and religious dimensions of the concept. There are considerable regional disparities in the accessibility of social services in Egypt. The main features of access to social services are: the appropriation and concentration of most of the services in Cairo with the other urban governorates of Alexandria, Port Said and Suez combined running a distant second. Rural areas are mostly deprived of such services, be it cultural, religious, health, entertainment, and so on. This, in turn, means that the poorer segments are being increasingly socially excluded in Egypt. For example, researchers argue that the government has left the standard of public services in the health and education sectors, to deteriorate to the extent that they became undesirable by the majority of the population. Thus, the government uses this as an excuse to reduce the budget allocations to social services (Mohieddin, 1994; Zaytoun, 1995, among others).

A recent assessment of Maternal and Neonatal service estimates the absorption capacity of obstetrics to range from 59 to 100 percent. A recent survey in Suhaj governorate indicates that health facilities “are limited in the rural areas. In the Governorate there are 149 rural health units, one school health unit, 35 health centers and 9 hospitals. Of the 16 villages surveyed, 10 had a health unit within the village, and for others distance to be traveled varied from 0.5 km to 5km. Although the overall number of health facilities in the Governorate is reasonable, existing facilities are primarily in the towns and many of them are insufficiently equipped, as well as lacking in most basic supplies for much of the time. This lack of facilities and supplies is in a context of extremely high population density and a very low standard hygiene, with canal water being used by children for playing and fishing, as well as by livestock and also often by women for laundry and dishwashing. The canal water carries the impurities along the course of River Nile all the way back to Uganda.

Vulnerability is also considered in the Main Nile Basin in view of women and workers rights. Domestic violence is a serious social problem in Egypt; one report concluded that one in three married women has been beaten by her husband. Genital Mutilation still occurs, and the majority of women have to undergo this procedure. In the business world, women are guaranteed pay equal to that of men, but there are strong societal pressures against women being employed. Legally, many laws, particularly inheritance laws, favor males, and men who kill women receive lighter sentences than women who kill men under similar circumstances. Labor laws in Egypt do not provide adequately for union members; work strike is illegal and punishable by imprisonment. Many governments-mandated labor laws are not enforced, such as minimum wages and maximum hours. While child labor was a serious problem in Egypt in the past, there has been marked improvement recently.

As for minority rights, Egypt guarantees freedom of religion, and the Jewish and Christian communities are generally treated well. Nevertheless, the Christian minority has reported that it is sometimes discriminated against, and there have been reports of forced conversions to Islam. Members of the Baha'i faith are categorically banned from practicing their religion or living in Egypt.

4.2.5 Social Organization

To date, the family remains the most significant unit of Egyptian society, and kinship plays an important role in virtually all social relations. An individual's social identity is closely linked to his or her status in the network of kin relations. Socialization of children emphasizes integration with their kin group. An important goal of marriage is to ensure the continuity of a family. A husband and wife are not considered a family until they have produced their first child. The most widely held values of honor, dignity, and security can only be derived by an individual as part of a larger kin group. Kinship as a first principle is evident from the most essential to the most trivial aspects of social organization.

Egyptians reckoned descent patrilineally, tracing their ancestry through the male line. The ideal family was an extended family consisting of a man, his wife (or wives), his single and married sons and their wives and children, as well as his unmarried daughters. Younger members of the family deferred to older members, and women deferred to men. The political and economic upheavals of the nineteenth and twentieth centuries had only limited impact on this family structure. The traditional Sunni religious code for Muslims defined most Muslims' family matters (marriage, guardianship, and inheritance) while canon law defined these matters among Christians. The father controlled the families' possessions and income. Even though adult male heads of household wielded immense authority within the family, traditional expectations of parental responsibilities prevented most fathers from exercising the full extent of their powers.

Although an extended family that lived together was considered the ideal, it was not common. A nuclear family consisting of parents and their unmarried children was the norm in cities. Even in rural areas, nuclear families accounted for approximately 80 to 90 percent of all households. Nevertheless, relations with in-laws, grandparents, nieces, and nephews continue to have an impact on the lives of most adults. Typically, newly married couples set up their households near the homes of the groom's parents and married brothers, which pattern of residence is technically referred to as patrilocal. Tensions between wives and their mothers-in-law, as well as tensions among wives of brothers, often disrupted the extended family's harmony.

Both patrilineal descent and the patrilocal extended family functioned differently for men and women. Men are the preferred, valued members of the lineage. A son's birth was occasion to celebrate, whereas the birth of a daughter, especially if she was the first child, was generally greeted with ambivalence. Men were valued both as providers and as

progenitors because descent was reckoned through males. Men remained with their consanguineous kin throughout their lives. Lineages commonly kept property in the hands of their males through marriages among cousins. If daughters married within their paternal lineage, then the property they might inherit and transfer to their children would remain within the lineage. For a Bedouin male or a villager, the ideal bride was the daughter of his father's brother, which kinship concept is anthropologically known as parallel cousin marriage. More than 50% of the marriages in rural areas and among the urban lower class were endogamous. Marriage between relatives has been declining among the urban middle and upper classes since the 1952 Revolution, and by the 1980s, most marriages in these social groups were exogamous.

For most men, marriage marked the transition to adulthood. Married men were expected to defer to their fathers, but they still had considerable autonomy because of their responsibility for their families' livelihoods and households.

Box 22

For most women, marriage meant leaving their families' homes and sometimes their home areas. In most cases, marriage merely substituted a woman's dependence on her husband for dependence on her father.

A woman retained membership in her patrilineage regardless of her marital status. Indeed, if members of her lineage were feuding with members of her husband's lineage, the wife was expected to side with her paternal family. A woman was entitled to make demands of her father and brothers, especially in case of marital difficulties, throughout her life. Most women generally preferred to live near home and thus tried to avoid marriages with men whose families lived in other cities or villages. Geographical proximity to patrilineal kin served as a source of emotional support in the early years of marriage when women were most vulnerable to divorce. Women in villages often asked their brothers to hold their inheritances for them. This move helped prevent mistreatment of the women by their in-laws. A divorced woman could have her brother return the inheritance to her as her children approached adulthood.

4.2.6 Conflict and Conflict Management

The review report on the socio-economic features of the Main Nile (Egypt) by Mohieddin (2006) states that either no research has been undertaken or documents are not available on conflicts between economic, occupational, or other groups, as well as on resource-based clashes between customary and institutional/legal tenure arrangements in the Main Nile Basin.

4.2.7 Development Projects

The Aswan High Dam is a rock-fill dam, which constitutes a principal water development project operated in the Main Nile Basin. It was constructed to meet the demand for high

capacity storage, in order to control and preserve the overflow of water during the flood seasons, for use during low flood seasons. The construction of the dam lasted for a decade (1960 to 1970) and is 3,830 meters in length, 980 in width at the bottom, and 111 meters in height above the river bed. A hydro-electric power station, built at the outlets of the tunnels encompasses twelve generating units, each with a capacity of 175,000 KW. Its total generation capacity reaches 2.1 million KW, producing ten milliards KWH annually. The electric power generated here is transferred to Cairo and other major cities by means of high voltage transmission lines. The power generation has played an important role in the electrification of the country, and the expansion and development of different sectors of the economy. It has also contributed significantly to economic development, by saving foreign exchange needed to generate an equal amount of energy from steam power stations. The Aswan Dam, which also forms the largest artificial lake in the world, has been of a tremendous importance to Egypt in successfully coping with droughts, which have resulted in widespread famine in many countries of Africa. Without the dam, it would have been difficult to survive the severe droughts ranging from 1979 to 1987, in which case the shortage of irrigation water would have caused the nation serious food crisis.

Despite its benefits, however, the construction of the Aswan High Dam has caused serious social and environmental impacts. 100,000 to 120,000 Nubians, 50,000 of them Egyptians and 70,000 Sudanese, had to be relocated to make way for the entire project, mainly the reservoir. The dam-induced displacement has resulted in a combination of physiological (exposure to different communicable diseases), psychological (undergoing stressful experiences, anxieties and uncertainties) and socio-cultural (denial of access to ritual sites and practices) shocks to the indigenous populations.

On the environmental side, the massive deposit of silt which the Nile flood water brought each year are now held behind the dam, contributing to the loss of fertility of the floodplains lying further down. As a result, the farmers are forced to apply thousands of tons of chemical fertilizers to replace the fertility of the flood-derived alluvial soils. The repercussion of the heavy dependence on commercial fertilizer has been chemical pollution of the environment, which was not the case with the traditional river silt. Besides, the release of silt-free water from the structure resulted in major downstream erosion, leading to the problem of waterlogging and increase in salinity. The Mediterranean fish stocks have also been negatively affected by the dam, as a result of the reductions in the flow of the river, and the sharp drop in the volume of nutrient such as phosphates and silicates, which it traditional brought along to the sea. Due to the resultant shock to the marine ecosystem, the fish production there has declined dramatically because of the High Dam. Moreover, the Aswan High Dam has been implicated in the rise of schistosomiasis (bilharzia). The thick plant life that has grown in Lake Nasser is blamed to have provided favorable breeding grounds for the snails which carry the disease. As a result, the prevalence of urinary and intestinal bilharzia is believed to be on the rise in the neighborhoods of reservoir.

4.3 The Status of Socio-Economic Knowledge Base in the Main Nile Basin

Egypt enjoys one of the longest histories of data collection in Africa (Mohieddin, 2006). The quality of statistical data in Egypt appears to be reasonably good, and the World Bank and World Development Reports generally consider Egyptian data to be reliable. However, as Mohieddin (2006) puts it, it is probably fair to say that Egypt suffers from too much data and under analysis in certain areas especially in the fields of economics and population. On the other hand, it may also be said that the existing body of knowledge is not coherent in other areas such as the social aspects of water resources. Regionally, Upper Egypt is the least studied area in the country, Lake Nasser being a case in point.

In terms of specific areas of research, socio-economic studies are in a particularly poor state, having been denied the focus of attention that they deserve. This is attributable more to the lack of funds for research, inaccessibility of data, and the frustrating research environment in the country, than it is to the lack of skills in the fields. Furthermore, specialists in a range of interrelated fields such as economics, sociology and anthropology operate in isolation from one another, leading to incomplete understanding of things from the perspectives of the respective fields, rather than from multi-disciplinary points of view.

To be more specific, the status of the existing knowledge base per individual discipline looks like the following.

- In the field of demography, there appears to be a relatively good understanding of the causes of population growth in Egypt, especially those related to fertility patterns. Much less understood, however, are those related to mortality. Research in this area has focused almost entirely on child mortality. This may be justified in the light of the fact that the high levels of mortality prevalent among infants and children under 5 years of age determine the overall mortality rate in the country. In addition, there is a complete lack of studies on mortality patterns, causes and social and economic consequences among the other age cohorts of the population. Equally less understood are the dynamics of international migration from Egypt. The phenomenon has risen and fallen without having been duly studied. Internal migration studies have almost exclusively focused on Cairo, and to lesser extent on Alexandria. Other patterns of internal migration such as migration between secondary towns and cities has not been documented or studied. Spatial mobility such as daily commuting between cities and intra-village movements also suffer from extreme lack of research attention.
- Closely linked to the foregoing is the lack of an understanding of settlement hierarchy and patterns in the country, regional inequalities and the factors affecting them having not been properly studied.

- In the field of economics, there appears to be a concentration of studies in the banking and finance and other service sectors, the attention given to the production sectors being only minimal. Apparently, this is a reflection of the shift the Egyptian economy has experienced over the last decade and a half. However, changes in macro-economic policy orientation have affected broad sectors of the Egyptian population through mechanisms such as early retirement, and the abandonment of the state commitment to employ graduates, among other factors. The extent to which these changes impacted poverty and contributed to its spread into some segments of the society traditionally considered not so poor, is not investigated.
- In response to the agenda of international donors, there seems to be a focus on the interrelationship between gender and poverty. Also it seems reasonable to conclude that poverty studies in Egypt are based on the assumption that poverty is an exclusively a feminine rather than a general issue. As a result, the current understanding of poverty and its dynamics in Egypt is not holistic.
- In addition, there is a poor understanding of the mechanisms of exclusion and inclusion, as far as the mainstream Egyptian society is concerned, which is measured in terms of access to social services. Hence, differential access to services across ethnic, age, occupation, economic, and gender variables seems to be a blank area in the existing knowledge base about Egypt. Even less understood are the rules governing access to natural resources, especially the customary norms.
- The documentation of development projects appears to be satisfactory. Still, the focus is more on the infrastructural aspects of these projects, and less on their socio-economic implications for the different social classes and groups of the population.
- There is a state of divorce between academic and applied research, which gap needs to be narrowed down by encouraging the two research wings to jointly operate in inter-complementary fashion.

Annotated Bibliography

Main Nile Basin

I Demographic and Socio-Economic Profile

1.1 Demography

1.1.1 Population Growth

Title: *Population of Egypt in the 20th Century*. Cairo: Cairo Demographic Center. 2003.

Author(s) Hesham Makhlouf (Ed.).

Abstract: This book is based on a comprehensive research project conducted to analyze the major demographic features that distinguish the population of Egypt in the twentieth century. It attempts to reveal the major developments in the size, distribution, and composition of the population. The book focuses on a period characterized by both population growth and significant changes in the components of this growth. These changes resulted from social, economic, cultural and political changes that swept the country during the course of the century. In its thirteen chapters, the book deals with population growth, fertility, mortality, international migration, distribution, age and sex composition, education, labor force, nuptiality, in addition to population projections, national population policies and data sources for the study of the demography of Egypt.

Title: *Demography, Capital Dependency and Growth in MENA*. Cairo: ERF Working Papers, NO. 1, 1998.

Author(s) Tarik M. Yousef

Abstract: Recent academic and policy discussions have emphasized the poor growth performance of MENA's economies since the mid 1980s. It has been argued that the expanding global economy presents MENA with the opportunity to augment its limited pool of national savings with private capital inflows. However, MENA's dependence on the global economy to bridge its domestic resource gap has been driven by conditions internal to the region. This paper addresses a much neglected dynamic in MENA, demography. Using an international growth perspective, the paper demonstrates that demography conditioned MENA's growth performance over the period 1965-90. Whereas demography depressed domestic savings, retarded capital accumulation and constrained economic growth in the past, the dynamics of MENA's demography over the next 25 years predict an enhanced potential for

mobilizing domestic resources for growth. This potential, however, requires appropriate fiscal, financial and institutional reforms and improvements to raise national savings and investment. Thus, economic policy, while facilitating integration into the global economy, should simultaneously focus on reducing its dependence on foreign capital, especially when international capital markets remain highly segmented and volatile.

Title: *"The Demography of the Arab Region: New Challenges and Opportunities"*. Paper presented at the workshop on "Population Challenges in the Middle East & North Africa: Towards the Twenty First Century" Semiramis Intercontinental Hotel, Cairo, 2-4 November, 1998. Economic Research Forum for the Arab Countries, Iran and Turkey.
Availability: Downloadable from ERF

Author(s) Hoda Rashad Zeinab Khadr

Abstract This research examines recent fertility changes in the region, their underlying factors and consequences on the demographic trajectory of the Arab populations. It highlights the substantial role of nuptiality in fertility declines. It shows that though contraceptive technology contributed to fertility declines, its contribution was offset by changes in breastfeeding practices and therefore nuptiality is the key player in fertility declines. It also provides a profile of nuptiality changes in the region and examines the effects these changes on the well being of women. It investigates the effects of the recent fertility and mortality declines on the age composition of the Arab populations. It shows that the age structural changes in the Arab regions have acquired enough momentum to introduce aging as a new area of concerns. Some insights on the context of aging in the region and its policy implications are also presented. It indicates the need for future policies that ensure not only the well being of the older persons but other family members involved in their care.

Title: *"Demographic Transitions and Economic Performance in the Middle East and North Africa"*. Paper presented at the workshop on "Population Challenges in the Middle East & North Africa: Towards the Twenty First Century" Semiramis Intercontinental Hotel, Cairo, 2-4 November, 1998. Economic Research Forum for the Arab Countries, Iran and Turkey.
Availability: Downloadable from ERF

Author(s) Tarik M. Yousef and Jeffrey Williamson

Abstract The demographic transition – the process of moving from high to low fertility and mortality - has been slower in MENA than in most developing regions in the post-WWII era. As a result, MENA's population grew very rapidly but the ratio of the economically active to the dependent population remained

comparatively low until the 1990s. Utilizing an empirical growth framework, we show how MENA's demographic transition helps accounts for its slower growth performance relative to high performing Asian economies over the period 1965-90. The empirical analysis indicates that population growth has a purely transitional effect on economic performance that operates when the dependent and working age populations are growing at different rates. An important implication of these results is that future demographic change will tend to promote more rapid growth in MENA. This potential, however, requires appropriate economic and political policies and institutions.

Title: *Egypt: recent changes in population growth*. Washington, D.C., World Bank, 1995 Feb. 22 p. (Human Resources Development and Operations Policy Working Paper No. HROWP 49)

Author(s) Cochrane SH; Massiah EE

Abstract "This paper examines the determinants and consequences of population growth in Egypt in [the] recent past and the near future." The focus is on changes in mortality and fertility. The authors' note that both general and infant mortality have declined significantly, although substantial socioeconomic inequalities remain. Fertility has also declined, particularly since the mid-1980s. "To continue this trend in fertility reduction, it will be necessary to improve the education of rural girls and to make further improvements in the family planning program....The question that Egypt faces at this point is how to make the necessary changes in the program and how to make the transition to greater financial self-sufficiency."

Title: *Population and development in Egypt*. Cairo, Egypt, Cairo Demographic Center, 1994. [3], 164, [2] p. (CDC Series on Population and Development No. 1)

Author(s) Soliman S; Abdel-Latif A; El-Mahdi A; Nassar H; Hassan A; El Leithy H; Moustafa, M.

Abstract This report focuses on population and development issues in Egypt. Chapter topics include population dynamics, population as the engine of growth, population as a burden to development, population and unemployment, population and poverty, and human development. Egypt had an estimated 60.283 million persons in March 1994. During 1985-90, the population growth rate was 2.3%. Rapid population growth is attributed to a rapid decrease in the crude death rate and a slow decline in the crude birth rate. The crude birth rate is slow due to a slow decline in the total fertility rate and a change in population age structure (39.4% of the population was under 15 years old in 1990). Population growth could be a source of economic growth, if the working age population were properly employed with adequate education and

there existed a favorable investment climate and flexible labor markets. Rapid population growth affects the quality of the labor force. While the proportion of school age population increased during 1976-86, the share of public spending on education decreased from 22.2% in 1975 to 5.9% in 1988 and 1990/91. The result was low enrollment rates, high drop out rates, increased class size, increased use of two shifts per day in schools, increased illiteracy, and low quality of performance. Reduced labor demand is a result of declines in the investment ratio, poor economic performance, and government policy. There was a statistically weak correlation between the population growth rate and the incidence of poverty or change in poverty. Changes in poverty were moderately correlated with changes in gross domestic product, in infant mortality, and in the illiteracy rate. Structural adjustment that began in 1991 is likely to result in decreased public expenditures on education. Population growth in Egypt is expected to hinder the process of human and economic development.

Title: *Next step for Egypt -- access to more methods.* NETWORK. 1993 Mar;13(3):18-21

Author(s) Herndon N

Abstract Population growth in Egypt is a problem which threatens the future of Egypt and her children. As a result of government promotion of family planning, the annual population growth rate is down to 2.3% from 3% in 1985, and the number of annual births first fell in 1989 and has fallen each year since. With USAID's assistance, the government has done a rather good job at providing family planning services, as indicated by the results of a 1991 survey. Results indicate that high cost of inaccessibility to family planning services are not reasons for not using contraception. Egypt is trying to remove medical practices or regulations that are barriers to contraceptive use which once removed, will expand the variety of contraceptives available. Today 83% of Egyptian couples use oral contraceptives (OCs) or IUDs. Family planning specialists have identified certain areas to target to bring about improved access: Norplant, progestin-only OCs, Ocs, voluntary sterilization, injectables, unnecessary contraindications, and unnecessary examinations. The Clinical Services Improvement (CSI) Program is a model to increase access to contraception. Women physicians provide family planning services to the program's women clients through 100 center and satellite offices. CSI also offers services at a reasonable cost. The Egyptian Ministry of Health family planning project is using nurses, who tend to be women, to provide counseling and injections, which generally are physicians' duties. Some physicians defend the medical barriers present in the beginning of Egypt's family planning program, e.g., only gynecologists could insert IUDs (now general practitioners can also insert IUDs). Religious and cultural factors are barriers for abortion and for sterilization. Thus, Norplant shows promise of becoming a substitute for sterilization.

Title: *The demography of the Arab Republic of Egypt: population issues and policies.* Statistisk Tidskrift/Statistical Review. 1981;19(4):253-268

Author(s) Holmberg, I.

Abstract The author examines some aspects of population growth in Egypt. Recent trends in fertility, mortality, urbanization, industrialization, regional development, and internal migration are described. The demographic and socioeconomic consequences of rapid population growth are considered, and the possibility of formulating government policies to alleviate problems associated with rapid growth is discussed

Title: *Egypt's population explosion.* Jerusalem Quarterly. 1980;(15):106-120

Author(s) Yinon. O.

Abstract The author examines the development of official policy toward population growth in Egypt from the time of Nasser to the present day. The current extent of family planning programs and practice is reviewed. Population projections to the year 2000 are summarized and their implications for Egyptian development considered

Title: *Population and development. A study on the population increase and its challenge to development in Egypt.* Cairo, Egypt, Central Agency for Public Mobilization and Statistics, June 1973. 315 p.

Author(s) Egypt. Central Agency for Public Mobilization and Statistics

Abstract This study on the increase of population in Egypt and its impact on development tackle the question of the population growth from its various aspects as well as the economic factors of the problems of overpopulation. It covers the present-day and future problems of the population increase in Egypt and the world, the demographic statistics of the population problem, the economic factors and socioeconomic development in relation to population growth in Egypt. The analysis of the demographic elements presents statistics on the age and sex composition of the population, marital relations, fertility trends, mortality levels and trends, and the population movement and internal migration. Economic factors are analyzed according to population and natural resources, characteristics of the labor force, education in national development, consumption patterns and trends, and investment and saving. Methods and aims of development in relation to socioeconomic development, the effect of the growth of population on economic development, and the effect of economic development on population growth in the future are discussed and analyzed. Analytical studies on this information for Egypt and many other countries are included in an appendix to the appropriate subject.

Title: *The national population and family planning policy for the 10-year plan, 1973-1982.*
(Cairo), October 1973. 23 p.

Author(s) Egypt. Supreme Council for Population and Family Planning

Abstract In response to the difficult problem of population growth in Egypt, the solution has been identified as a plan that will decrease the fertility to equilibrium with mortality and will maintain a population balance that is compatible with socioeconomic development and welfare. The 1st part of the 10 year National Population and Family Planning Plan for 1973 to 1982 was developed, comprising the following: 1) general policy of the National Population and Family Planning Plan; 2) objectives of the plan; 3) the basic variables promoting a reduction in population growth on which the plan is based; 4) the specific objectives of the activities to accomplish the plan; 5) the activities leading to the achievement of the Plan's objectives; and 6) the role of the institutions involved in implementing these activities. Population growth can only be dealt with by reducing fertility and emigration. The plan does not retain emigration as 1 of the basic factors since studies have shown that immigration will not significantly affect population growth during the period 1973 to 1982. The 2nd part of the draft of the Plan will need to define the timetables for implementing the activities assigned to each institution scheduled in comprehensive programs, the measurement and indicators for these activities; evaluation program; cost benefits; and budget. Information is outlined concerning the policy guidelines to the Plan, the objectives, the basic factors affecting a reduction in population growth and upon which the Plan is based, and implementation of these activities.

1.1.2 Fertility

Title: Labor Participation of Arab Women: Estimates of the Fertility to Labor Supply Link. Cairo. ERF Working Papers, NO. 22, 1996

Author(s) Sulayman Al-Qudsi

Abstract: The paper has two objectives. The first is to review salient trends in the fertility of women, their education, formal and informal participation and status over the past two decades. The second is to examine at the micro level the determinants of labor participation for a set of Arab countries. A major focus of the analysis is the fertility-labor link. Do high fertility rates impede participation? What role does education play in each? Methodologically, the paper applies a two-step econometric model that consists of a Poisson maximum likelihood count equation and a dichotomous probit equation. The salient findings of the paper are: First, fertility and participation are inversely related and the link is strong in all Arab countries under review. Second, age at marriage, women's education, infant mortality and preference for male offspring are important determinants of fertility. Reduced infant mortality rate is associated with fertility reduction. Third, a rise in wage increases the

opportunity cost of having children and therefore leads to a decrease in fertility. Fourth, increased resources at the household level reduce women's participation, ceteris paribus. Finally, education is an important pathway to effective engagement of Arab females in formal market activities.

Availability: Abstract only.

Title: *Fertility trends and differentials in Arab countries.* In Fertility trends in Egypt and their effect on population growth. Cairo Demographic Centre, 1971. p. 53-69

Author(s) Ahmed F. A.

Abstract Fertility and population growth in Egypt are discussed. Although there has been a decline in Egypt's birthrate, it is not expected to continue without some efforts at limiting births through a family planning program. An analysis is presented that attempts to estimate the effect of controlling fertility to a certain birth order on total fertility rate, gross reproduction rate, and net reproduction rate in Egypt in the next 20 years on the basis of 3 different assumptions. First, the age-specific fertility rates are postulated to remain constant at the 1966 level during the next 20 years. Second, the decline of mothers having 7 or more live births by 1/3 each 5 years until they disappear from the reproductive population in 1981 is assumed. Third, the gradual decrease of mothers having 5 or more live births by 1/3 in each 5-year period from 1966 to 1981 is assumed. It is estimated that in 20 years there would be an increase in the Egyptian population to 50 million people under the first assumption, there would be an increase to 47 million people under the second, and there would be an increase to 44 million under the third. These data indicate the importance of family planning.

Title: *The relationship between female employment and fertility.* Cleveland, Ohio, Case Western Reserve University, 1982. 136 p. Publication Order Number DA8217657, University Microfilms International.

Author(s) Hamzawi, R. A.

Abstract A high rate of population growth in Egypt has prevailed for a long time as a result of the decline in mortality without the accompanying decline in births. Hence, there has been a high rate of natural increase of more than 2%/year in the last 3 decades, but as a result of the social and economic development brought about in the country (especially in urban areas) at the present time, women have broken the shell of isolation and have effectively participated in all aspects of activity. This applies particularly to urban work in commerce and industry; consequently, this must be reflected in their fertility. Employment of women outside the home (in commerce or in industry) reduces the time available for having and raising children, decreases the child's utility as a productive agent as a person who may be expected to eventually work and contribute to the family income, and restricts the need for children for security.

Therefore, the relationship between female employment and fertility has commanded much attention recently in urban Egypt and several research projects have dealt with this subject. Some find a positive relationship, others a negative one, and in a few studies, no relationship at all. But it should be noted that fertility is a complicated phenomenon and cannot be explained by only 1 variable in isolation from the interrelationships with other socioeconomic variables. Therefore, this study hypothesized that: Controlling for the wife's and husband's education, age, family income, and length of residence in an urban area, there is a negative correlation between female employment and fertility. It is expected that the higher the number of years spent in female employment, the lower the fertility. This study endeavored to test this hypothesis and examined some aspects of this relationship by using survey research with a large sample (N=912) of married women currently living with their husbands in the reproductive group ages 16-49 in Heliopolis, Cairo, Egypt. We found a strong significant ($P < 0.001$) negative zero-order correlation between female employment and fertility (-0.6240) and when the 5th order partial between these 2 variables was computed, the partial was (-0.6697) indicating that the initial zero-order correlation of (-0.6240) has been increased by simply controlling effects of the 5 control variables. These findings suggest that the negative significant relationship between female employment and fertility was substantial. Findings indicate that the relationship between female employment and fertility persists and it was not indeed a spurious one. The findings of the simultaneous multiple regression analysis indicate that 58.794% of the variance in fertility was associated with female employment, education of both wife and husband, age, family income, and length of residence in an urban area. This study thus confirms that the relationship between female employment and fertility in Heliopolis, Cairo, Egypt, exists then other variables which affect fertility (wife's and husband's education, age, family income, and length of residence in an urban area) are controlled.

Title: *Issues in Fertility Transition in the Middle East and North Africa.* Cairo: ERF Working Papers NO 3, 1999.

Author(s) Youssef Courbage

Abstract: Fertility in the MENA countries shows that transition is an undeniable trend in this region, where the paradigm of demographic transition seemed to lose all its credibility. Analysis of the proximate determinants of fertility shows that contraception is becoming the leading inhibiting factor, ahead of delayed age at marriage, which was predominant during the seventies and eighties. The paper describes the present heterogeneous situation which includes countries close or below reproduction levels such as Lebanon, Tunisia, and some urban and educated sub-groups in Morocco and others still in the stage of quasi-natural fertility close to or above six children such as Yemen and Palestine. It then attempts to explain the paradoxes and peculiarities of this transition. Examples are analyzed to show how the paradigm of demographic transition

fails to explain the atypical character of MENA fertility transition, i.e. higher fertility decreases in countries insufficiently prepared such as Morocco, whereas fertility remained stubbornly high elsewhere in Egypt, Iran, Syria and the Arabian peninsula until the second half of the eighties.

Availability: Soft and hard copy

Title: *"Political and Economic Issues of Fertility Transition in the MENA Countries"*. Paper presented at the workshop on "Population Challenges in the Middle East & North Africa: Towards the Twenty First Century" Semiramis Intercontinental Hotel, Cairo, 2-4 November, 1998. Economic Research Forum for the Arab Countries, Iran and Turkey.
Availability: Downloadable from ERF

Author(s) Youssef Courbage

Abstract Fertility in the MENA countries and in the Arab Countries shows that transition is an undeniable trend, in this region which has rightly or wrongly a reputation for opposition to change, and where the paradigm of demographic transition seemed to lose all its credibility. Analysis of the proximate determinants of fertility shows that contraception is becoming the leading inhibiting factor, ahead of delayed age at marriage, which was predominant during the seventies and eighties. After a description of the present heterogeneous situation: countries close or below reproduction levels (Lebanon, Tunisia, some urban and educational sub-groups in Morocco...), others still in the stage of quasi-natural fertility close or above 6 children (Yemen, Palestine...), the paper attempts to explain the paradoxes and peculiarities of this transition. Examples are analyzed to show how the paradigm of demographic transition fails to explain the atypical character of MENA fertility transition, i.e. higher fertility decreases in countries insufficiently prepared (Morocco,...), whereas fertility remained stubbornly high elsewhere (Egypt, Iran, Syria Arabian peninsula...) until the second half of the eighties.

Title: *Stalled fertility decline in Egypt, why?* Population and Environment. 2003 Sep;25(1):41

Author(s) Eltigani, E. E.

Abstract After experiencing rapid decline since the 1980s, fertility in Egypt seemed to be stalling during the second half of the 1990s. In an effort to identify the population segment(s) responsible for the stalling, this study considers fertility trends of women from three standard of living strata (low, middle, and high). Using data collected by the 1988, 1992, 1995, and the 2000 Egypt Demographic and Health Surveys, the study indicates that the reproductive behavior of women from high and middle standards households is largely responsible for stalling of the fertility decline during recent years, and that prospects for a lower fertility in the future is limited, once the gap between the

three groups closes. This means that the expectation of achieving replacement fertility Egypt within the next 15 to 20 years is in doubt if the current trends in the both actual and desired fertility of the middle and high strata continued. The key for future decline in fertility is the decline in desired number of children below the current level of 3 children by at least one segment of the population. The fact none of the three population segments expressed a desired fertility below 3 children deprived the society of a vanguard group that leads the rest of the society to replacement level fertility.

Title: *Levels of fertility have declined steadily in Egypt, but unwanted childbearing remains common.* International Family Planning Perspectives. 1997 Sep; 23(3):137-8.

Author(s) Edwards, S.

Abstract In the 1995 Egypt Demographic and Health Survey (EDHS), a total of 14,779 ever-married women aged 15-49 were interviewed. Data on marriage and fertility, contraceptive use, fertility preferences, maternal and child health, and female circumcision were obtained. Overall, it is noted that fertility in Egypt has declined by about 30% since 1980. Between the 1980 Egypt Fertility Survey and the 1995 EDHS, the total fertility rate among the women dropped from 5.3 lifetime births per woman to 3.6 births. Such a decline has been greatest in rural areas. If such trends continue, it is believed that the average Egyptian woman will have 3.6 live births over her total reproductive years. Moreover, knowledge of a contraceptive method was reported to be nearly universal among married women, but only 48% actually use one. The most widely used method is the IUD (30%), followed by the pill (10%). It is also noted that almost 97% of these women have undergone female genital excision.

Title: *Reproductive intentions and future fertility in Egypt.* In: CDC 25th Annual Seminar, 1995, [compiled by] Cairo Demographic Center. Cairo, Egypt, Cairo Demographic Center, 1996. :255-68. (Cairo Demographic Center Research Monograph Series No. 25)

Author(s) Zohry, A. G.

Abstract This study examined the relationship existing among reproductive intentions, contraceptive prevalence, and total fertility rate (TFR). This relationship was used to forecast future fertility up to the year 2012. Data were from the 1992 Egypt Demographic and Health Survey (DHS). The study indicated the TFRs for the 5-year period following the 1992 DHS and extrapolated the TFR up to the year 2012. The study used the West method of statistical links, which connects reproductive intentions, contraceptive prevalence, and fertility to provide a basis for making a short-term forecast. These roughly 5-year forecasts were based on regression equations specifying the relationship among the three variables. It was concluded that almost two-thirds of married

women did not want any more children. Among women who expressed desire for another child, the majority wanted to delay the next birth by 2 or more years. Only 12% of married women wanted another child within 2 years. The percentage of women wanting no more children, in all regions of Egypt, ranged between 71.4% and 69.0%, except in rural Upper Egypt, where the percentage was 56%. The TFR was expected to decline from 3.93 live births per woman in 1992 to 3.44 in 1997. The decline in the TFR varied by region and education. It ranged from 0.71 births in rural Upper Egypt to 0.33 births in the urban governorates. Women who had completed at least secondary education were expected to reach the reproductive fertility level in the year 1997, while women with no education were expected to have a TFR twice as high as women with advanced education. The TFR was expected to decline to 2.2 live births per woman in the year 2012. This result was consistent with the National Population Strategy (2.3 live births). The decline in the TFR was expected to be 1.73 live births within a 20-year period (1992-2012).

Title: *Reassessment of the prospects for fertility decline in Egypt*. Chapel Hill, North Carolina, 1980 Jun. 65 p.

Author(s) Omran A. R.

Abstract The study purpose was to assess the following: the growing seriousness of the population problems in Egypt; the impact of these problems on the country's economic and social development plans; the health consequences for individual families; the efforts to mitigate these problems; and the prospects for accelerating fertility reduction between now and the year 2000, with particular attention to the question or whether development is a prerequisite for fertility decline. Egypt's population grew from 2.4 million around 1800 to 38.2 million in 1976. Currently, Egypt adds 2.4 million in only 2 years. The contribution of migration to population growth in Egypt is negligible, and declines in mortality and/or changes in fertility have been primarily responsible for changes in the rate of population growth. The initial fertility decline that occurred between the early 1960s and 1972 could have been the result of multiple factors, including the following: increased awareness on the part of political leadership of the potential threat to the process of development and modernization posed by rapid population growth; the culmination of the family planning movement in Egypt; the impact and spillover effect of the official family planning effort; and the relative improvements in the socioeconomic conditions since 1952 that may have helped family planning efforts. Since the Family Planning Board added development activities to its functions in 1973, family planning has been almost overshadowed by population-responsive activities. Family planning has been in the position of competing for attention in the Ministry of Health with a host of health priorities. Unfortunately, after a promising beginning, Egypt's family planning effort is back at square 1 and beset with problems.

Title: *Women's education, employment and fertility in Egypt*, 1991. In: CDC 24th Annual Seminar on Population Issues and the Challenges in the 21st Century in the Middle East, Africa and Asia. CDC Annual Seminar, 1994, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1995. :219-42. (Cairo Demographic Centre Research Monograph Series No. 24)

Author(s) Ahmed F. A; Mohamed A. M; Khalil M.M.

Abstract This study examines the proximate determinants of fertility in Egypt. Data are obtained from the 1991 Egypt Maternal and Child Health Survey among 10,041 ever married women aged under 55 years. The analysis is based on the framework developed by Bongaarts, which identifies proximate fertility variables as the index of marriage, contraception, abortion, and postpartum infecundability. The total fertility rate is estimated based on proximate variables and the level of education and work status. Findings indicate that the variation in fertility between educated and uneducated women and working and nonworking women was related to differences in several proximate determinants of fertility: the proportion married, contraceptive use, and lactation infecundability. The index of marriage reduced fertility by 24%: 28% among educated women and 19% among uneducated women. The effects of the marriage variable on fertility were strong among educated women. The effects of lactation on fertility were strong among ever and never working women. Contraception contributed to fertility reduction by 45%: 52% among educated women, 44% among uneducated women, 48% among ever working women, and 45% among never working women. Lactation reduced fertility by 31%. The differences in fertility between educated and uneducated women and ever and never working women were large. Findings indicate that the below-average fertility among educated women was due to a short duration of lactation, a high degree of fertility control, and later age at marriage. High fertility was maintained by uneducated women in spite of the long duration of breast feeding.

Title: *Employment and fertility behavior*. In: Proceedings of Workshop on: Health Policies for Mother and Child: Findings from Health Surveys in Egypt, edited by El Tigani E. El Tigani, Hoda Rashad, Ahmed A. Moneim, El Daw A. Mohamed. Cairo, Egypt, Central Agency for Public Mobilization and Statistics [CAPMAS], 1995. :129-41. Workshop organized during the period 28-29 September 1994 by the Egypt Central Agency for Public Mobilization and Statistics [CAPMAS] and the League of Arab States Pan Arab Project for Child Development [PAPCHILD].

Author(s) Hassan M; Ahmed FA

Abstract This study examined the relationship between women's employment and fertility in Egypt. Data were obtained from the 1993 Egypt Use Effectiveness of Contraceptives Survey among 9822 ever-married women aged less than 50 years. Comparisons were made to data from the 1991 Egypt Maternal and

Child Health Survey. Findings indicate that single women who worked for cash married about 4 years later than women who did not work before marriage. This pattern was followed in urban and rural areas. The gap in marriage age increased from 1.05 years to 3.71 years between women who worked for cash before marriage and had no education and women with at least a secondary education who did not work before marriage. Among women who were married under 20 years, women who worked before marriage had a lower number of children ever born than women who did not work before marriage. Family planning use was higher among females who were working or who ever worked for cash.

Title: *The impact of policy and program on fertility in Egypt: the Egyptian family planning success story.* [Cairo], Egypt, National Population Council, 1995 Jul. 83 p

Author(s) Robinson W. C; El-Zanaty F. H.

Abstract This monograph traces the evolution of population policy and family planning programs in Egypt and changes in fertility and the underlying determinants. The analysis is largely descriptive and historical and is based on surveys, censuses, program performance data, and other published and unpublished literature. The first three chapters include an introduction, a background history, and an analysis of socioeconomic trends. Chapter 4 deals with demographic trends in mortality and fertility. Chapter 5 focuses on the early growth of population awareness, the first programs during 1965-75, the second phase during 1975-85, and the third phase during 1985 to the present. Chapter 6 focuses on the influence of foreign donors, including the US Agency for International Development (USAID). USAID is credited with focusing on the need for different family planning strategies for urban and rural areas in 1983. The USAID project was in transition until 1987, when the strategy of making existing family planning components work better produced results. The Clinical Services Improvement Sub-Project upgraded physical facilities and equipment, established effective management systems, and developed effective community outreach. Private and public initiatives were used. USAID sub-project provided training and supplies to numerous private sector groups. Simultaneously, improvements were being made during the 1980s in the Ministry of Health's service delivery network. Chapter 7 describes recent trends in contraceptive use. Chapter 8 discusses the future challenges ahead for family planning and fertility decline. Lessons learned are included in the final chapter. Egypt learned that national commitment is key, that quality of services is vital, that multiple method availability works best, and that information, education, and communication (IEC) is necessary. Effective programs are not cheap and the private sector must be involved.

Title: *Estimating excess births due to unwanted fertility in Egypt.* In: CDC 24th Annual Seminar on Population Issues and the Challenges in the 21st Century

in the Middle East, Africa and Asia. CDC Annual Seminar, 1994, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1995. :199-218. (Cairo Demographic Centre Research Monograph Series No. 24)

Author(s) Zohry A.G.

Abstract This study estimates unwanted fertility and examines the trends in natural fertility, total fertility, wanted fertility, and unwanted fertility in Egypt during 1980-91. The analysis includes the estimation of excess births due to unwanted fertility and the estimation of the total fertility rate and the crude birth rate in the absence of unwanted fertility. Findings indicate that natural fertility increased from 6.69 births/woman in 1980 to 8.22 births/woman in 1991. Wanted fertility declined from 2.91 births/woman in 1980 to 2.09 births/woman in 1991. Unwanted fertility remained stable at 2.13 live births in 1980 and 2.14 live births in 1991. Unwanted fertility represented 42.3% of observed fertility in 1980 and 51.0% of observed fertility in 1991.

Title: *Population trends: Egypt.* Washington, D.C., Bureau of the Census, International Programs Center, 1994 Nov. 4 p. (Population TrendsPPT/92-9)

Author(s) United States. Bureau of the Census. International Programs Center

Abstract The government of Egypt actively promotes family planning. The level of contraceptive prevalence is increasing such that almost 50% of all married women practice family planning and fertility is declining. The rate of total fertility declined from 5.5 in 1980 to 3.8 in 1994. Levels of mortality also declined over the period, especially infant mortality. Even though the overall level of fertility in Egypt has declined, however, the rate of total fertility remains far beyond replacement level and the population will continue to grow for many years. The current Egyptian population of 61 million is projected to increase to 92 million by the year 2020. Over the period, the population will grow older relative to its present age structure and existing land and infrastructure will be increasingly taxed. 97% of the population now lives on 4% of the land. Sections present information for Egypt on fertility and mortality, contraceptive prevalence, population age structure, urbanization, and literacy. Tables offer population indicators for Egypt over the period 1986-2020, contraceptive prevalence among married women under 50 years of age by method for selected years, the average ages of users of selected methods in 1992, and fertility rates per 1000 women in 1980, 1988, and 1992. It is noted that 20% of married women in Egypt are not using family planning despite their desire to limit or space births.

Title: *Marital fertility pattern and family planning practice.* In: CDC 23rd. Annual Seminar on Population and Development Issues in the Middle East, Africa and Asia. CDC Annual Seminar, 1993, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1994. :823-57. (Cairo Demographic

Author(s) El-Dawy S. A.

Abstract This study examines the trends in the age specific marital fertility rate. It determines the impact of family planning practice on fertility in Egypt. Data were obtained from the 1980 Egypt Fertility Survey and the 1991 National Maternal and Child Health Survey among a nationally representative stratified probability sample of ever married women aged under 55 years. The model is based on one proposed by Coale and Trussell (1974, 1978). There were few differences in natural and controlled fertility among the younger ages. Marital fertility declined during 1980-91 from 7.9 children/woman to 6.9 children/woman. In 1991 marital fertility was 7.4 births/woman in rural areas and 6.5 births/woman in urban areas. The highest fertility rates were among women aged under 25 years, regardless of place of residence and husband's characteristics. Marital fertility was higher among higher social class females living in urban areas. Marital fertility decreased rapidly over the age of 25 years. Trends in marital fertility are compared to natural fertility by socioeconomic status of wives and husbands for 1980 and 1991. Findings indicate that education that was higher than primary education was the most important factor affecting the gap between marital and natural fertility. Husbands' occupation and place of current residence had strong impacts on the age specific marital fertility rates (ASMFR). There were few differences in fertility between women that ever or never worked. Findings indicate that the proportion of women using family planning were the main determinants of fertility, and the relationship changed over time and was not perfectly linear.

Title: *Kabsa (a.k.a. mushahara) and threatened fertility in Egypt.* Social Science and Medicine. 1994 Aug; 39(4):487-505.

Author(s) Inhorn MC

Abstract The lower socioeconomic classes of Egypt often attribute female infertility to kabsa. Kabsa, also known as mushahara, is a form of boundary-crossing by symbolically polluted individuals into the rooms of reproductively vulnerable women. Once polluted, women's reproductive bodies bind, thus threatening their future fertility, their husbands' virility, and the general social reproduction of broader Egyptian society. It is considered to be the leading cause of female infertility in the country. Since infertile individuals are socially stigmatized in Egypt, women dread contracting the condition. This paper explores kabsa beliefs and practices in lower Egypt in terms of the ritual process and reproductive rites of passage for women in particular. Conclusions are derived from data obtained in ethnographic field research conducted between October 1988 and December 1989 among 100 infertile and 90 fertile Egyptian women of lower and lower-middle classes. The author analyzes major features of kabsa along with preventive and therapeutic rituals. She concludes by analyzing reproductive threat in an exploration of why Egyptians perceive

kabsa and other forms of reproductive hindrance to be dangers to individual, social, and political bodies. Neocolonially inspired family planning campaigns are considered.

Title: *The effect of family planning program on fertility in Egypt (1980-1991)*. In: CDC 23rd. Annual Seminar on Population and Development Issues in the Middle East, Africa and Asia. CDC Annual Seminar, 1993, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1994. :713-34. (Cairo Demographic Centre Research Monograph Series No. 23)

Author(s) Yehia AM

Abstract This family planning program evaluation uses the Bongaarts prevalence method to estimate births averted due to the impact of contraceptive use and the corresponding reduction in the birth rate in 1991. Data were obtained from the 1991 Egyptian Maternal and Child Health Survey among ever married women. The program impact is the difference between observed fertility and potential fertility. Non-program contraception is the difference between natural and potential fertility. This article describes the methods for calculating natural fertility, the fertility impact of contraceptive prevalence, births averted, the impact on the birth rate, and method-specific results. Data for the calculations include contraceptive prevalence, observed age-specific fertility rates, the number of women of reproductive age in 5-year age groups, use-effectiveness of different contraceptive methods, age-specific proportions of fecund women, and total population size. Findings indicate that 1,332,414 births were averted by contraception. The birth rate effect of contraception was 24.7 births/1000 population compared to the observed birth rate of 33.1/1000 in 1991. The natural crude birth rate was 57.8 births/1000 population, or the number of births if there had been no contraceptive use in 1991. The total birth rate effect was 24.7 births/1000 population, of which 0.40 was due to sterilization, 13.50 was due to the IUD, 8.42 was due to the pill, and 2.39 was due to other methods. The crude birth rate declined by 55% due to the IUD. The pill caused a decline of about 34%. The reduction in the total fertility rate due to contraceptive use was 3.75 births in 1991. The fertility rate of 4.15 would have been higher by 3.75 births, that is, 7.90 children/woman. The total fertility rate declined by 47% due to contraceptive use.

Title: *Determinants of fertility in Egypt: a supply-demand approach*. In: CDC 23rd. Annual Seminar on Population and Development Issues in the Middle East, Africa and Asia. CDC Annual Seminar, 1993, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1994. :659-83. (Cairo Demographic Centre Research Monograph Series No. 23)

Author(s) **Author:** Zohry A. G.

Abstract This study estimated and examined the trends in fertility determinants in the Urban Governorates, Urban Lower Egypt, Rural Lower Egypt, Urban Upper

Egypt, and Rural Upper Egypt. It also examined the factors which underlie the fertility change over the period 1980-91 and their relative contribution in the various regions of Egypt. The economic theory of fertility is discussed, followed by a review of the literature. Findings are based upon an analysis of data drawn from the 1980 Egyptian Fertility Survey conducted by the Central Agency for Public Mobilization and Statistics (CAMPAS) as part of the World Fertility Survey, and the 1991 Egyptian Maternal and Child Health Survey conducted as part of the Pan-Arab Project for Child Development. Study organization is described. Fertility declined in all regions of Egypt during 1980-91 except Rural Upper Egypt where fertility increased slightly. Even so, the lowest total fertility rate observed in 1991 of 2.69 live births is still well above replacement level fertility. The level of natural fertility increased in all regions of Egypt. Wanted fertility rates in 1991, however, were lower than the replacement fertility level in all regions except Rural Upper Egypt. The preference implementation index rose for all regions of Egypt, especially in Rural Lower and Rural Upper Egypt. The fertility promoting effect of natural fertility was counteracted by the fertility reducing effect of wanted fertility and preference implementation in all regions, except Rural Upper Egypt.

Title: *The relational Gompertz model in detecting the recent changes of fertility in Egypt.*

EGYPTIAN POPULATION AND FAMILY PLANNING REVIEW. 1993 Dec; 27(2):82-101.

Author(s) Abdel Fattah MN

Abstract The Gompertz relational model was designed to measure the force of mortality in 1825 by Benjamin Gompertz, and was applied to fertility data by Brass in 1974. The author investigated recent changes in fertility in Egypt using Gompertz's model. Data on women's fertility behavior are drawn from the 1991 PAP/CHILD survey and the 1992 Demographic and Health Survey, respectively sampling 9073 and 9978 women. His analysis determined that fertility remains high in Egypt even though there is some indication of decline from former levels in the recent past. The total fertility rate consistently declined from 5.3 during 1980-1988 to 4.5 in 1991, while the level of contraceptive use increased from 37.8% to 47.8%. Conventional measures failed to identify a significant decline in fertility, but the Gompertz model identified a real decline in fertility especially from 1988.

Title: **Fertility in Egypt: an analysis of the proximate and socioeconomic determinants.**

Cairo, Egypt, Cairo Demographic Center, 1993. 34, [10] p. (Cairo Demographic Center Working Paper No. 34)

Author(s) Osheba. I. K.

Abstract This study describes the trends in fertility and proximate fertility determinants

in Egypt during 1979-82. The analysis includes a decomposition of the decline in fertility by proximate determinants and then projects the total fertility rate under different assumptions about contraceptive prevalence and proximate determinants. The determinants of contraceptive use are also examined. Data are obtained from the 1980 Fertility Survey, the 1988 and 1992 Demographic and Health Surveys, and the 1986 Population Census. The total fertility rate (TFR) declined from 5.3 live births to 3.9 live births during 1979-80 and 1990-92, or 2% a year. Fertility declines were larger during 1988-92. Fertility decline was the greatest among ages 30-34 and 35-39 years over time. Fertility peaked at ages 20-29 years. Contraceptive prevalence increased from 24% in 1980 to 47% in 1992. The inverted J-shaped curve of age specific contraceptive use remained the same over time. During 1980-92, the proportion married declined the most among women 15-19 years old, followed by women 20-24 years old. The average duration of breast feeding declined from 17 months to 14 months during 1980-92, with the greatest declines occurring during 1988-92. The 25.6% decline in TFR during 1979-80 and 1990-92 was due to 6.1% decrease in the proportion married, a 29.7% decline due to an increase in contraceptive prevalence, and an 8.5% increase due to the shortening of the duration of lactational infecundability. Other proximate determinants contributed to a 3.8% increase in the TFR. The increase in contraceptive prevalence contributed to the decline of 1.6 live births. According to one scenario, TFR will be 3.21 in 2002, if the contraceptive prevalence rate (CPR) increases at a rate of 1% per year and most proximate determinants remain the same. Scenario two will result in a TFR of 3.06. Under the third scenario replacement-level fertility will be reached in 2012. Declines in infant mortality and increases in literacy will significantly increase CPR.

Title: *Early childbearing and lifetime fertility in Egypt, 1980.* In: CDC 21st Annual Seminar, 1991, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1992. :83-98. (Cairo Demographic Centre Research Monograph Series No. 21)

Author(s) El Bakly A. A.

Abstract This study focused upon women born in the period 1931-55 (aged 25-49 years) who had a first birth prior to age 25. The study made a straightforward comparison of age-specific, cumulative, and expected total fertility of women in different cohort categories. Urban and rural women were compared with regard to place of residence and age at first birth. Differences between age-at-first-birth groups in age-specific, cumulative, and expected completed fertility were compared across cohorts to infer changes over time in the relationship between age at first birth and lifetime fertility. The study showed that the gap between the cumulative fertility of teenage mothers and others increased up to a turning point and then stabilized or decreased. For urban women, the turning point had remained constant at age 25 across the older birth cohort (it was 20 for the youngest cohort). The reduction in the gap between the cumulative

fertility of younger mothers and others after the turning point was sharper for the older cohort. For rural women, the turning point was at age 20 for women born between 1936 and 1946 and increased to age 25 for the other cohorts. The pattern of convergence over time within cohorts implied that studies which had considered cumulative fertility differences between age-at-first-birth groups midway in their reproductive life span as indicators of lifetime fertility experience overstate the degree by which the total volume of childbearing of teenage mothers exceeded that of other women. Teenage mothers, even those in the younger cohort, and even if their reproductive expectations were not exceeded, would still have more children on the average than other women. The age-at-first-birth differential in fertility appeared to be widening; that was the differential in completed family size, which would still be quite substantial for women who were then in their early reproductive years.

Title: *Socio-economic determinants of achieved fertility in Egypt.* EGYPTIAN POPULATION AND FAMILY PLANNING REVIEW. 1992 Jun; 26(1):1-38.

Author(s) Farahat A. M; Fattah M. N; Mahgoub Y. M

Abstract The authors investigate socioeconomic determinants of fertility in Egypt. The paper "begins with the intermediate variables and then moves to [a] wider range of social, demographic and environmental influences....The results have shown that age and age related indicators (years since first union and age at first union) are the best group of independent indicators to explain number of children...."

Title: *Regional urban-rural differentials of the educational impact on fertility in Egypt.* Cairo, Egypt, Cairo Demographic Centre, 1992. 31 p. (Cairo Demographic Centre Working Paper No. 25)

Author(s) Mahgoub Y. M; Hussein M. A.

Abstract This study examines the impact of maternal educational status on fertility among Egyptian women who desire a stop to childbearing. Data were obtained from the 1988 Demographic and Health Survey. The study sample included 4974 women who did not want any more children. Analysis is based on global odds ratios. The odds of having at least a secondary education among women with 3 children was 7.865 times the odds of having at least a secondary education among women with at least 4 children. Conversely, the odds of having at most 3 children among women with at least a secondary education was 7.865 times the odds of having at most 3 children among women with at most a primary education. The odds ratios increased as the number of living children increased at all educational levels. The odds ratios increased as the level of education increased. Women with a university or higher education tended to have 2 or 3 children more than women with a secondary education. There was a highly significant association between educational level and the number of living children for women who did not want any more children.

Findings from analysis of 1980 and 1984 data show that secondary levels of education should be attained in order to achieve fertility of about 3 children/woman. Urban governorate and national results were similar. The results for urban governorates in Lower Egypt suggest that fertility could not be limited to 3 by changing educational status. Findings from rural Lower Egypt indicate that it was easier for women with 3 children to increase fertility than for women with 1 child to increase fertility. Findings for urban Upper Egypt were similar to national results. Only in rural Upper Egypt was education positively associated with fertility among women with a secondary education. It is argued that the large family norm prevails, particularly in rural areas in rural Upper Egypt.

Title: *Women's status and fertility in Egypt and Bangladesh.* Ann Arbor, Michigan, University Microfilms International, 1991. 125 p. Publication order number DA9216272

Author(s) Al-Said, A.

Abstract Data from the 1976 Bangladesh Fertility Survey on 5128 women and the 1988 Egyptian Demographic and Health Survey on 7774 currently married women were used to comparatively analyze the effects of women's economic and gender status on the number of children ever born. Independent variables were educational attainment, employment status after marriage, Muslim religious affiliation, and son preference. Introductory materials were provided on definitions, theories of the relationship between women's status and fertility, and demographic characteristics. The hypotheses were that higher economic status is related to fewer children; that non-Muslim status and weak son preference is related to fewer children; that hypothesis 1 will be weaker in Egypt and Bangladesh for Muslims than for non-Muslims, for women with strong son preferences than for women with weak preferences; and that economic development affects the strength of the relationships (i.e., in Egypt the relationship will be stronger for hypothesis 1 and hypothesis 2). Control variables were women's age at interview, marriage age, and women's residence. The findings in the multivariate analysis and analysis of covariance confirmed that both economic status and gender status covary inversely with the number of children ever born (CEB) to women in both Egypt and Bangladesh. Employment of women reduced the fertility of Muslim women less than non-Muslims. Muslim religion or lower status was associated with higher fertility regardless of economic status or son preference. In Egypt, 60% of the variance in CEB was explained by the predictor variables: wife's age (beta = .679), marriage age (beta = -.378), educational attainment (beta = -.098, $p < .001$), and urban-rural residence (beta = .126). Gainful employment was insignificant, though there was a high correlation with education ($r = .433$). In Bangladesh the results were similar but employment replaced education and was significant at $p < .05$ and residence was not statistically significant. For hypothesis 2, there was statistical significance even though the beta weights were small for son preference (.019) and religion (-.024) in

Egypt; i.e., Muslim women and women with a greater son preference had a higher number of CEB. The same was true for Bangladesh. For hypothesis 3, employment by religion was significant ($F = 18.97$, $p < .001$) for both countries. Education had a stronger effect on fertility in Egypt.

Title: *Son preference and contraception in Egypt.* ECONOMIC DEVELOPMENT AND CULTURAL CHANGE. 1991 Jan; 39(2):353-70.

Author(s) Aly H. Y; Shields, M. P.

Abstract

Abstract: The impact of son preference on fertility in Egypt is analyzed using contraceptive practice as the end point. Data came from the 1980 Egyptian World Fertility Survey. The probability of contraception at each parity was estimated with a nonlinear maximum likelihood estimation of the cumulative logistic probability function. Dependent variables were number of sons at each parity, duration of marriage, wife's age at marriage, husband's education, religion, wife's work, and rural/urban location. Number of sons had a positive impact on contraceptive use at all parities. At low and high parity, contraceptors had little son preference, but contraception increased dramatically at each parity as the number of sons increased. The number of sons seemed to be the most important determinant of parity-specific probabilities of contraception. Education had a consistently positive and significant effect on contraception, suggesting that economics motivated people to prefer well-educated, quality children over quantity. Religion and wife's labor participation had no effect on probability of contraception. Sons are preferred in Egypt, especially in rural areas, because they cost less to raise, contribute to family income with their higher earnings, inherit agricultural land, will potentially support parents in their old age, and are preferred for social, religious and status reasons

Title: *Determinants of adolescent fertility in Egypt (1984).* In: Studies in African and Asian demography: CDC Annual Seminar, 1990. Cairo, Egypt, Cairo Demographic Centre, 1991. :153-74.

Author(s) El Bakly A. A.

Abstract Data on ever-married women 15-49 from the 1984 Egypt Contraceptive Prevalence Survey are used in this analysis of the determinants of adolescent fertility. 748 women or 7.5% of the total sample were <20 years. 21% were urban dwellers and 79% rural dwellers which compared with the sample heavily weights rural females. Path analysis was used to explain the proximate determinants: the marriage age, contraceptive use, and at menarche, and spontaneous abortion of adolescent fertility. It is assumed that socioeconomic and demographic factors, cultural norms, and environmental conditions affect the proximate determinants. Nationally in 1986, 17.6% of adolescents were ever-married. In this sample, 98.8% did not work, 85.8% had no schooling,

47.5% had never been pregnant, 47.9% had 1-2 children, and 4.7% had 3 or more, 64% had knowledge of contraception, 93% were nonusers, and 90% desired 4 or less children. Childbearing occurs early in marriage. >20% had 1 child before the age of 20, 50% had births before 25 years, and 67% before 30 years. Differentials in children ever born (CEB) in the bivariate analysis reveal that adolescent fertility levels are negatively associated with wife's and husband's education only in urban areas. Knowledge and use of contraception are positively associated with CEB. No association was found between children desired and CEB. The path relationships are described and graphically depicted. The variables with significant direct effects on CEB are age at 1st marriage and wife's education, which have negative effects, and use of contraception, which shows an unexpected positive effect. The incidence of spontaneous abortion negatively affects CEB at the .05 level. Infant mortality is unexpectedly insignificant. Negative indirect effects on CEB are the highest for wife's education (-0.2470), followed by place of residence. Lower indirect effects on CEB are women's age, knowledge of family planning (FP), and husband's education. In the path analysis of the total effects on CEB, the largest effects are determined by age at 1st marriage, wife's education, and women's age. There are moderate effects from place of residence and husband's education. An unexpected finding was that place of residence had a negative effect on knowledge of FP. The implications are that age at 1st marriage needs to be increased as well as reproductive knowledge and pregnancy prevention needs to be provided through social institutions other than schools. A survey specifically of adolescent females needs to be conducted

Title: *Marriage stability and its impact on fertility in Egypt, 1984.* In: Studies in African and Asian demography: CDC Annual Seminar, 1990. Cairo, Egypt, Cairo Demographic Centre, 1991. :175-215.

Author(s) Hassan A. F.

Abstract This study examines factors affecting nuptiality in Egypt. "Bivariate analysis is used as a starting point to establish the relationship between socio-economic, demographic variables and nuptiality factors, namely first marriage stability and remarriage. In addition, step-wise regression analysis is adopted to identify the determinants of...first marriage dissolution by divorce and [by] remarriage. Path analysis technique is utilized to measure the direct as well as indirect effect that each variable has upon achieved fertility level." (EXCERPT)

Title: *Education, income, and desired fertility in Egypt: a revised perspective.* ECONOMIC DEVELOPMENT AND CULTURAL CHANGE. 1990 Jan; 38(2):313-39.

Author(s) Cochrane, S. H; Khan, M. A; Osheba, I. K.

Abstract The authors focus on desired fertility and attempt to estimate how

socioeconomic variables affect the demand for children among Egyptian couples. Cross-sectional data are used to examine how education and income affect couples' desired family size. Data used are from the Egyptian Fertility Survey that was carried out from January-June 1980. The authors take explicit account of the objections raised by M. Neilove and others that there is more than 1 decision maker in each family. They estimate a simultaneous equation model in which both the husband's and wife's desired number of children is rated endogenously. Secondly, the authors attempt to estimate, in a developing country context, the quality-quantity dichotomy emphasized by G. S. Becker, D. N. De Tray, R. T. Michael, and others by introducing educational aspirations as an additional explanatory variable. Finally, the authors recognize urban/rural differences and estimate models separately for lower and upper rural Egypt. Some conclusions drawn from the data analysis follow. 1) Land ownership emerges as a significant variable in determining both husband's and wife's desired family size in all the rural regions. 2) Husband's education is significant in determining his desired family size and shows a negative effect in rural regions. In urban Egypt, the wife's education is significant and negative related to the husband's desired family size. 3) The husband's/wife's knowledge of contraception proves to be the most important variable in determining his or her desired family size in all regions and shows the hypothesized negative effect. 4) Region of residence is significant in determining both husband's and wife's desired family size. Results show that in no case does the husband's preference have a significant effect on the wife's, while everywhere but in rural Egypt the wife's preference has a significant effect on the husband's. Economic development as reflected by the couple's education, the educational aspirations for their daughters, and wife's age at marriage affect family size preferences in such a way as to indicate that desired family size will decrease with development.

Title: *Age at first marriage and fertility in Egypt*, 1984. In: Studies in African and Asian demography: CDC Annual Seminar, 1989. Cairo, Egypt, Cairo Demographic Centre, 1990. :281-308.

Author(s) Hasan, A. F.

Abstract The purpose of the research is to assess the extent to which later age at first marriage is associated with lower fertility and the influence of social background on age at first marriage as well as on fertility among a sample of ever married women in Egypt." Variables considered include place of residence, employment and educational status of husband and wife, and age difference between husband and wife. Data are from the 1984 Egypt Contraceptive Prevalence Survey. (EXCERPT)

Title: *Socio-cultural dimensions of population policies in the Third World: the Egyptian case*. (Volumes I and II). Ann Arbor, Michigan, University Microfilms International, 1990. xxv, 486 p. (Order No. 9023941) Doctoral

dissertation, State University of New York at Binghamton, 1990

Author(s) Lolo, A. M.

Abstract This study emphasizes the importance of socio-cultural dimensions in explaining the dynamics of fertility transition as well as judging the efficiency of population policies in the 3rd world. Using the anthropological perspective, theoretically and methodologically, the study attempts to answer what are the obstacles to fertility transition in Egypt. It asks whether this has to do with the culture of the Egyptians, with inefficient planning or policy, or both. The authors have formulated a theoretical model in which they have assumed the relevance of socio-cultural factors (tradition, values, and belief systems) for fertility behavior and portrayed the source of change (government intervention by introducing various projects as well as different programs) and the ways in which they may affect the decline of fertility in Egypt. Empirical verification of the model has been accomplished through intensive fieldwork in 2 communities in Menoufia and Kalubiya governorates, chosen because of their contrasting socio-demographic characteristics. Following various methodological procedures, mainly using focused interviews, participant observation and biographies, the authors have collected ethnographic and demographic data on: the effectiveness of the social system and whether or not it favors the notions of family planning; the importance of various values that motivate people to have children; the dynamics of relationships between local leaders and people in these communities, the efficiency of organizations responsible for these programs in performing their roles in local communities; availability of resources and whether or not they have been equally distributed; and the importance of political participation or nonparticipation of household heads in the programs and the reasons thereof. These data were collected over 10 months by interviewing a sample of 220 households which represented the socioeconomic, in-depth interviews and extensive participant observation were conducted for those in charge of both family planning and development programs--administrators, nurses, physicians, local leaders, as well as religious instructors. The analysis of these data lead to the identification of the reasons for the increase of fertility and thus ineffectiveness of both programs and projects in the 2 communities. The reasons include: 1) the deficiency of the developmental approach adopted by planners to reduce fertility in both communities due to various factors; 2) the side effects of the contraceptive methods (i.e., failure of technology) including those who might have been persuaded to practice a particular method as well as they who actually practiced family planning; and 3) the power of cultural norms and values (cultural rigidity). These trends were represented in a set of values, beliefs, and customs, some rooted in religious doctrine, and others inherited and supported by the Egyptian fold tradition. Still others are socially created in and approved by the communities. Such trends orient, motivate, and urge individuals to have many children, affect decision making for those couples practicing family planning, and/or limit the rate of individual (especially women) interaction and participation in the various programs being introduced in their communities.

Title: *Replacement-Level Fertility in Egypt: Obstacles and Facilitating Factors.* Paper for presentation in the session entitled “Prospects for Below Replacement Fertility” at the IUSSP International Population Conference, Tours, France, 18-23 July 2005.

Author(s) John B. Casterline and Rania Roushdy

Abstract The most recent estimate of the total fertility rate in Egypt is 3.2, i.e. one child above Replacement-level fertility. The national population policy stipulates achievement of replacement-level fertility by 2017. Working against further fertility decline are the expressed desires of a large fraction of reproductive-age women to have at least three children. Even among women under age 30, roughly one-half profess three children as their ideal number. In this paper we investigate the fertility desires of Egyptian women under age 30, currently married and never married, using recent national survey data. The focus is the desire to have two (or fewer) children, as against three (or more) children, the critical distinction in mid-fertility societies such as Egypt. We hypothesize that, in addition to standard background variables (such as region and type of place of residence, educational attainment, and household wealth), the desire to have just two children is influenced by four factors: perceived costs and benefits of children; preferences concerning the sex of children; gender roles (intra- and extra-household); and economic stress and anxiety (concerning the present and the future). The latter is rarely considered in research on fertility desires in low-income countries, despite ample evidence from qualitative research that micro-economic considerations bear heavily on fertility demand. The survey data offer multiple indicators of each of the four factors. Regression analysis provides evidence for net and relatively powerful effects of each factor. Especially deserving of emphasis are the effects of son preference – large in magnitude, and pertinent for a substantial fraction of women – and the effects of economic stress and anxiety. Achievement of replacement-level fertility in Egypt will, it would appear, require major further transformation in reproductive attitudes and behaviors.

Title: *Interrelations among child mortality, breastfeeding, and fertility in Egypt, 1975-80.* Washington, D.C., World Bank, 1990 Aug. 52 p. (Policy, Research, and External Affairs Working Paper No. WPS 478)

Author(s) Marcotte J; Casterline, J. B.

Abstract The relationships among breast-feeding, child mortality, and fertility in Egypt are analyzed for the period 1975-1980. The authors use mathematical models to examine the interrelationships among weaning, child deaths, and subsequent pregnancy among Muslim women using and not using contraception. The results show that weaning children in infancy increases the risk of death for

children under five.

Title: *Determinants of fertility in Egypt using the Follow Up Survey of Family Life and Family Planning (1981 - 1982)* In: Population researches and studies No. 38, [compiled by] Egypt. Central Agency for Public Mobilization and Statistics [CAPMAS]. Population Studies and Research Centre. Cairo, Egypt, CAPMAS, 1989 Jan. :[34] p.

Author(s) Ahmed FA

Abstract This study aimed at examining the determinants of fertility in Egypt using Bongaarts framework (1983). It utilized data from the Follow-up Study of Family Life and Family Planning, 1981-82. The gross and net effects of the considered variables on fertility were examined. General models were used to show the net effect of the proximate and socioeconomic variables on the cumulative fertility. The results showed that the important proximate determinants were age at marriage, use of contraception, and number of items of marriage. Education was the most important social variable affecting fertility; additional variables were residence characteristics, family income, and maternal employment status. The experience of a child death, in relation to the level of child mortality in the community, had a significant positive effect on fertility.

Title: *The effect of wife's education on the tempo of fertility in Egypt and Sudan* [Unpublished] 1989. Presented at the 24th Annual Conference on Statistics Computer Science and Operations Research, organized by Cairo University, Institute of Statistical Studies and Research, Cairo, Egypt, December 23-25, 1989. 33 p.

Author(s) Khalifa, M; Nagieb, M.

Abstract Data from the Sudan Fertility Survey of 1979-80 and the Egyptian Fertility Survey of 1980 were used to study the effect of wife's education on the timing of birth intervals. Multivariate analysis was performed using the proportion of women with a birth within a specified duration as the dependent variable and the following as independent variables: 1) the age of the woman at the start of the interval, 2) the length of the previous interval, 3) the survival status of the birth initiating the interval within 12 months of the birth, 4) the period 5-20 years before the survey, 5) urban or rural residence, 6) wife's education, and 7) husband's education. General examination of the overall pattern in both countries of birth spacing for the transition to the second, fourth, and sixth births revealed that the transition slows as parity increases and is slower among educated women at all parities. Exceptions were found in the Sudan where women with no education were relatively slow to proceed to the second birth, and women with some education proceeded to the second birth at a faster pace. Age did not greatly affect birth interval in either country. Women with short previous birth intervals continued to have short intervals. Women who lost a

the child initiating the interval also had shorter intervals. When all other socioeconomic variables are controlled, differences in timing of birth intervals continue to be seen between educated and noneducated women, but the differences are reduced. It is concluded that family planning efforts should be directed to noneducated Egyptian women and to all Sudanese women in order to extend birth intervals.

Title: *Estimates of the total fertility rates (TFR) of some selected areas of Egypt based on the Egypt Contraceptive Prevalence Survey (ECPS, 1984).* In: Studies in African and Asian demography: CDC Annual Seminar, 1988. Cairo, Egypt, Cairo Demographic Centre, 1989. :33-55

Author(s) Sayed, H. A.

Abstract This study analyzes recent changes in fertility in Egypt using data from three fertility surveys carried out between 1974 and 1984. Consideration is given to differential fertility among governorates and between rural and urban areas.

Title: *Work experience of married women and desired fertility in Egypt and Ghana.* In: Studies in African and Asian Demography: CDC Annual Seminar, 1987. Cairo, Egypt, Cairo Demographic Centre, 1988. :293-315. (CDC Research Monograph Series No. 17)

Author(s) Abdalla, A. A.

Abstract The relationship between women's work experience and desired fertility in Egypt and Ghana is examined using data from the 1980 Egyptian Fertility Survey and the 1979-1980 Ghana Fertility Survey. Differentials in the proportions of women desiring more children and in desired family size are analyzed by place of work, type of payment, type of occupation, and employment status for urban and rural populations in both countries.

Title: *Quantitative analysis of the relationship between child mortality and fertility in Egypt, Sudan, Kenya and Lesotho.* In: African Population Conference, Dakar, Senegal; November 7-12, 1988. Liege, Belgium, International Union for the Scientific Study of Population, 1988. :3.3.17-33

Author(s) El-Deeb, B.

Abstract The study examines the relationship between fertility and infant and child mortality in Egypt, Sudan Kenya, and Lesotho using multivariate analysis in order to exclude the interrelationships between different variables introduced in the study and for having the pure effect of each variable on fertility behavior and fertility norms. Data analyzed come from the Lesotho Fertility Survey of 1977, the Kenya Fertility Survey of 1977-1978, the Sudan Fertility Survey of 1979, and the Egyptian Fertility Survey of 1980. To identify the rank of the effect of child mortality on lifetime fertility, some other important factors such

as duration of marriage, wife's educational level, wife's work status, husband's occupation, place of residence, and religion are introduced. The results demonstrate that, if duration of marriage is excluded, the effect of child mortality on lifetime fertility has the 1st rank in Egypt, Sudan, and Lesotho, while it has the 3rd rank in Kenya. The substitute effect of child mortality was lower than the unity in all countries under study except among Egyptian women having only 1 child ever born alive. Women who lost 100% of children ever born had a higher average number of children ever born of 1.6 in Egypt, .9 in Lesotho, .5 in Kenya, and .4 in Sudan, as compared with the average number of children ever born among women who did not suffer from child loss. Nevertheless, the analysis shows that the highest effect of child mortality on lifetime fertility is shown in Egypt and the lowest in Sudan and Kenya while that of Lesotho came in between.

Title: *Breastfeeding aspects and its impact on fertility in Egypt, 1984.* In: Studies in African and Asian Demography: CDC Annual Seminar, 1987. Cairo, Egypt, Cairo Demographic Centre, 1988. :3-38. (CDC Research Monograph Series No. 17)

Author(s) Rabei A

Abstract The association between breast-feeding and fertility in both rural and urban areas in Egypt is examined, focusing primarily on its effects on postpartum amenorrhea. Following a review of existing research, life table estimates for breast-feeding and postpartum amenorrhea are derived using data for 4,768 births from the 1984 Egypt Contraceptive Prevalence Survey. The effect of economic development on duration of breast-feeding is noted, and the author concludes that "changes in durations and patterns of breastfeeding which may occur as urbanization and development continue in Egypt will...contribute to higher fertility levels unless compensated for by higher level of effective contraceptive practice."

Title: *Women's employment and recent fertility in Egypt and Ghana.* In: Studies in African and Asian demography: CDC annual seminar, 1986. Cairo, Egypt, Cairo Demographic Centre [CDC], 1987. :207-24. (CDC Research Monograph Series No. 16)

Author(s) Abdalla, A. A.

Abstract The author outlines "the overall levels, patterns and structure of women's employment in Egypt and Ghana [and examines] the relationship between women's participation in the labor force and recent fertility in both countries." Data are from the Egyptian Fertility Survey of 1980 and the Ghana Fertility Survey of 1979-1980. Tabular data are included on labor force participation by age, marital status, educational level, husband's occupation, and husband's education; occupational structure by rural or urban residence; fertility by educational level, work experience, and rural or urban residence; and

contraceptive use by work experience and rural or urban residence.

Title: *Fertility transition in Egypt*. Ann Arbor, Michigan, University Microfilms International, 1987. xiv, 210 p. (8713996) Doctoral dissertation, University of Pennsylvania, 1987

Author(s) Ahmed, F.A.

Abstract After a 9-year decline, the crude birth rate (CBR) in Egypt increased from 1972-79. This recent increase occurred despite the increasing use of contraceptives. In order to understand the trend in marital fertility in Egypt, the author analyzed the trend in the probability of having a specific birth order in a specific period of time. In order to understand which factors were associated with large family size, the author studied the determinants of cumulative fertility measured by the number of children ever born (CEB). A causal model of the determinants of cumulative fertility has been developed and tested. The major results are as follows. 1) The decline in the CBR between the 1st period (1965-66) and the 2nd period (1967-72) was due mainly to a decline in marital fertility. The fertility-reducing effect of delayed marriage was nearly offset by the increasing effect of age composition. The decline in marital fertility was probably the result of increased contraceptive use and a result of the separation of spouses during the war. The increase in CBR between the 2nd period (1967-72) and 3rd period (1973-79) was due mainly to an increase in the number of weddings and changes in age composition. The decline in marital fertility was not as strong as it was between the 1st and 2nd periods for 3 reasons: there was a decrease in the duration of breastfeeding, there were far fewer separations of spouses after the war, and there was an increase in natural fecundability resulting from modernization. 2) Age at marriage, education, and wife being raised in an urban area all have significant negative effects on fertility. Patrilocal residence and the experienced level of child mortality relative to the society's level have positive and significant effects on fertility. The effect of the social structure variables on cumulative fertility are larger for older wives. It is the conclusion of the author that the fertility transition has already begun in Egypt. Expanding education and family planning services are the policies most likely to hasten the fertility transition in Egypt

Title: *Determinants of breastfeeding and its impact on fertility in Egypt, 1984*. In: Studies in African and Asian demography: CDC annual seminar, 1986. Cairo, Egypt, Cairo Demographic Centre [CDC], 1987. :9-41. (CDC Research Monograph Series No. 16)

Author(s) Zaguloul, A. R.

Abstract "The aim of the present study [is] to examine the prevalence, levels, patterns and determinants of breastfeeding in Egypt as a whole as well as in rural and urban areas separately." The fertility-inhibiting effect of breast-feeding is estimated by using the Bongaarts model to examine the impact of four

proximate variables--proportion married, contraception, induced abortion, and postpartum infecundability--on fertility. Data are from the 1984 Egypt Contraceptive Prevalence Survey

Title: *Seasonal fertility cycles in rural Egypt: behavioral and biological linkages. Seasonal fertility cycles in rural Egypt: behavioral and biological linkages.* Demography. 1986 Feb;23(1):13-30

Author(s) Levy, V.

Abstract This paper explores whether the correlation between labor demand, mortality events, and fertility in Egypt reflect some causal behavioral relationship. The results of this type of analysis yield some important parameter estimates linking fertility to such variables as infant and child mortality or the opportunity costs of family members' time. Linkages are behavioral (family members try to avoid a birth in peak season of economic productivity to minimize the costs of the event) and biological (long working hours are likely associated with coital frequency). Biological and behavioral mechanisms and the timing of their effects on births are studied with data sets consisting of monthly time series data for the period 1963-71, and a pool of region and time data used to estimate birth equations. Some points of special interest are that marriage has a strong effect on birth, indicating the high fecundability of rural females and desire to have a 1st child immediately. Couples tend to have their 1st child within 12 months of marriage. Marriages' peaking in November-December has its greatest impact on births in October-January of the following year. Infant mortality positively affects fertility, as does child mortality, with a delay of 19 months. The former involves a shorter delay and higher replacement rate, probably due to breastfeeding effects. Both figures speak well for the effects of improvements in infant and child mortality on population growth. Opportunity lost variables negatively affect births, more strongly for men when observed in the time series results, and almost identically for rural males and females in the cross-section results. The harvest cycle effect involves non-voluntary biological (coital frequency) and voluntary economic (planning births for low opportunity costs) responses.

Title: *The dynamics of birth spacing and marital fertility in Egypt.* In: Studies in African and Asian demography: CDC annual seminar, 1983. Cairo, Egypt, Cairo Demographic Centre, 1984. :83-104. (CDC Research Monograph Series no. 12)

Author(s) el-Deeb, B. M.

Abstract Data from the 1980 Egyptian Fertility Survey were used to analyze the effects of the interbirth interval and the use of effective contraception in determining marital fertility. Also examined were socioeconomic determinants of birth intervals and contraceptive use. Marital fertility rates were directly related to the pregnancy progression ratios and inversely related to the average duration

of live birth interval of the various age groups: 345/1000 among women under age 25 years, 291/1000 in the 25-34 year age group, and 119/1000 among women aged 35-44 years. The overall fertility rate was slightly lower in urban than in rural areas, mainly because the shorter duration of breastfeeding and postpartum amenorrhea among urban women is partly compensated by higher contraceptive use. On the other hand, among urban women under 25 years old, marital fertility rates are substantially higher than they are among rural women as a result of a 23% shorter mean length of birth interval. Interestingly, low marital fertility rates were noted both in Rural Upper Egypt (the least modernized region) and in Cairo, Alexandria, and Urban Lower Egypt (the most modernized regions); the main cause for this was a long birth interval in the former region compared to a lower pregnancy progression ratio and higher contraceptive usage in the latter region. Highly educated women (at least secondary level) showed the lowest fertility. Among these women, a high level of contraceptive use fully compensates the short durations of breastfeeding and amenorrhea. Overall, the fertility rate of working women was only 7% lower than that of nonworking women and levels of contraceptive use did not differ between the 2 groups. Husbands' occupation did not contribute to marked fertility differentials. These results suggest that socioeconomic characteristics such as urban residence and wife's education strongly affect fertility through their influence on contraceptive use; in contrast, these variables only slightly affect fertility through the mechanism of birth spacing.

Title: *The role of economic development in controlling fertility in Egypt.* In: Aspects of population change and development in some African and Asian countries. Cairo, Egypt, Cairo Demographic Centre, 1984. :173-96. (CDC Research Monograph Series no. 9)

Author(s) Hassan, S. S.

Abstract This study, based on data drawn from a 1975 survey of university students' families and the 1976 Egyptian Census, aimed to characterize the role of economic development in fertility control. The data indicate strong occupational differences in fertility and child mortality. Within the 1st 10 years of marriage, only 6% of professional families surveyed compared with 42% of blue-collar families experienced child loss. All families, regardless of social class, attempted to quickly replace the loss. Professional families that had not experienced any child loss had a completed family size of only 3.97 children. Standardized data indicated a total cumulative fertility of 515 children/100 reproductive couples in which there was an average loss of 2 children/family and 497/100 if there was a loss of 1 child. The actual population of Egypt had an average completed fertility rate of 515/100 couples, corresponding to the death of approximately 1.2 children/family and a birth rate of 42/1000 population. Rapid eradication of child mortality could lead eventually to a crude birth rate in Egypt of 23/1000, if the medical services currently available

to the professional class were extended to those in the lower strata. Further analysis suggests that education rather than occupation is the key factor explaining fertility differentials in Egypt. In fact, female education has served to reduce child mortality even in the absence of medical facilities. Both fertility and the effect of child mortality could be significantly diminished by raising female education at least to the preparatory level. For economic development to exert an effect on population dynamics in Egypt, greater attention must be given to reducing the proportion of women exposed to fertility-enhancing child loss or the expectation of such a loss. In the interim, it is recommended that parents be offered incentives to enroll and retain their daughters in schooling.

Title: *Evaluation of the population and development program's impact on family planning in rural Egypt.* Ann Arbor, Michigan, University Microfilms International, 1984. Xii, 188 p. (8415312) Doctoral dissertation, Cornell University, 1984.

Author(s) Osman M

Abstract This dissertation set out to assess the impact of the Population and Development Program (PDP) on family planning practice. The PDP is an action program to implement the national population policy by means of integrating development and population programs in rural communities. Both the policy and the program share the belief that direct family planning efforts alone are incapable of reducing high fertility in Egypt. Thus, assessing the PDP impacts on contraceptive use should help to clarify the connections between development and population change in Egypt, but also shed light on general issue of the development approach to fertility reduction. Based on a national fertility survey conducted in 1979, the analysis focuses on the degree to which contraceptive prevalence is associated with the PDP, after controlling for demographic and socioeconomic characteristics. The data are examined in a variety of ways--multiple classification analysis, covariance and variance analysis, analysis of socioeconomic differentials in contraceptive use, regression analysis, and various econometric techniques. Lower and Upper Egypt are treated separately because of the social, economic, demographic differences between these regions

Title: *The relationship between social security expenditures and fertility in Egypt.* Population Studies. 1983 Jul-Sep ;(66):53-4. Summary of Arabic text

Author(s) Hamzawi RA

Abstract The relationship between social security expenditures and fertility was analyzed in 25 governorates in Egypt. Recent demographic research has analyzed the effect of economic and social development on fertility levels by breaking down the effects of economic development into the indirect and direct effects. The direct effects were positively associated with fertility; the

indirect effects of economic development, such as increased knowledge and use of birth control and female employment and education, were negatively associated with fertility. The study was based on this assumption and on the utility cost theory explanation of fertility developed by Leibeiste in 1957. The utility cost explanation assumes the following: people behave rationally with respect to their own fertility, i.e., behave as if they were applying rough calculations to the problem of determining the desirable number of births; and these calculations are directed toward balancing the satisfaction or utility to be derived from an additional child against the costs, both monetary and psychological of having that child. This theory distinguishes between these types of utility to be derived from an additional child. The first is the child's utility as consumption good, as a source of personal pleasure to the parents. The second is the child's utility as a productive agent, as a person who may be expected eventually to work and contribute to the family income. The third is the child's utility as a potential source of security, e.g., in the parent's old age. 2 types of costs for the added child are described in this theory. Direct costs are the usual expenses of maintaining the child until he/she is self-supporting. Indirect costs are those incurred when opportunities are foregone because of the child's existence. 5 variables were used in this study: social security; fertility; and the 3 control variables of infant mortality, female education, and male education. Results of this study of whether a negative relationship between social security expenditure and fertility exists fail to arrive at a suitable answer about this relationship. The negative correlation between social security expenditures and fertility does not exist in Egypt, but it is expected to appear in the future.

Title: *Fertility levels in Egypt in 1960 and 1976: some factors influencing the change.* In: Determinants of fertility in some African and Asian countries. Cairo, Egypt, Cairo Demographic Centre, 1982. :169-87. (CDC Research Monograph Series no. 10)

Author(s) Boraie, M. S; Sarma, R. S. S.

Abstract This paper analyzes changes in the level of fertility in Egypt between 1960 and 1976. Data are taken from censuses and the vital registration system. Over this period, the crude birth rate declined 11.7% from 43.1 in 1960 to 38.1 in 1976. Marital fertility declined among women ages 25-40 years, the mean age at marriage increased from 21.09 years to 22.04 years, and the proportion of ever-married women in the childbearing age range declined from 81.1% to 70.4%. 2 methods were used to disaggregate the total change in crude birth rate into the effects of individual components. The Cho-Retherford method considers the effects of 3 components: age structure, proportion of married females, and marital fertility. The relative contributions of these factors to the total change in crude birth rate in 1960-75 were -2.2%, 83.7%, and 18.5%, respectively. The greatest contribution to the change came from women ages 30-34 years. The standardization method apportioned change in the crude birth rate into 4 components: proportion of women in the reproductive age group,

age distribution of women within the reproductive age span, proportion of married women, and marital fertility. These factors accounted for 1.2%, 2.3%, 80%, and 16.4%, respectively, of the change observed. In spite of slight differences, both methods of desegregations provided similar estimates of the effects of components on the crude birth rate, with changes in marital status distribution having the greatest effect. Although it is recognized that social and economic variables also influence fertility, the demographic variables analyzed in this study are regarded as proxies for broader social phenomena.

Title: *Duration-specific marital fertility in Egypt.* Population Bulletin of Ecwa. 1982 Jun-Dec ;(22-23):5-30.

Author(s) Coale, A. J; El-Atoum, S.

Abstract Because of the discovery of substantial underreporting of births, deaths, marriages, and divorces in Egypt, the original report of the Committee on Population and Demography on duration-specific fertility rates of married women in Egypt was modified by using estimated calculations of these vital statistics. The original report involved the calculation of duration-specific fertility rates of married women in Egypt by first estimating the number of currently married women at each duration (by single years of duration under duration 5, and by 5-year intervals of duration up to duration 20). The calculation required data on the annual number of marriages and on the number of divorces each year, classified by duration of marriage, and estimated of the number of deaths of married persons of each sex by duration of marriage. From these data, it is possible to estimate at each date the number of marriages still intact of those that took place 0-1, 1-2, 2-3, 3-4, 4-5, 5-10, 10-15, and 15-20 years earlier. Deficits in the recorded number of marriages cause implausible variations in duration-specific fertility. It is important to discover the extent to which the recent apparent increase in birthrate is genuine, and the extent to which it is the result of improved registration. Factors causing an increase in fertility could be increase in the fraction of the population of childbearing age that is currently married; reduction in the inter-birth intervals in the early years of marriage as a result of shorter average period of breastfeeding; or reduction in the practice of contraception or in the effectiveness of such practice. Duration-specific fertility rates were recalculated for 1966-79 by estimating the number of currently married women at each duration of marriage. If registered data are accurate, there was a slight increase in marital fertility after 1975 or 1976, and a large increase in 1979. The sharp rise in 1979 should not be accepted without study of registration procedures. Under-registration of births in the early 1970s was estimated at 4%. Since births are recorded by year of registration rather than year of occurrence, improved registration might include not only a more complete record of current births, but also the backlog of previously unregistered events.

Title: *Time series causality between infant mortality and fertility in less developed*

countries.

Ann Arbor, Michigan, University Microfilms International, 1982. 149 p. (No. 8222994) Doctoral dissertation, City University of New York, 1982

Author(s) Karmakar R

Abstract This study elucidates the causal relationship between fertility and infant mortality in 8 less developed countries: Egypt, Mauritius, India, Sri Lanka, Jamaica, Puerto Rico, Colombia, and Venezuela. Both positive and negative correlations between the 2 variables are hypothesized. High infant mortality is expected to increase fertility through hoarding and replacement strategies, and through biological mechanisms, such as a faster return of ovulation due to the death of a breastfeeding infant. Infant mortality may decrease fertility by causing parents who have experienced a child death to refrain from repeated exposure to the same risk. Increased fertility may also increase infant mortality through the health problems associated with repeated and closely spaced pregnancies. The hypotheses tested are: the existence of a unidirectional causality from fertility to infant mortality or from infant mortality to fertility, and the existence of a feedback relationship between the 2 variables. Aggregated time series data are used and both the Granger and Sims tests of causality are applied. The crude birthrate is used as the fertility measure and the number of deaths between 0-1 year per 1000 as the infant mortality rate. The lag structure and equations for each country are presented. The results indicate that in less developed countries, infant mortality is a strong determinant of fertility behavior. In Granger's test, infant mortality was found to affect fertility in Egypt, Mauritius, Sri Lanka, Jamaica, Puerto Rico and Venezuela. Fertility affects mortality of infants in Egypt, Sri Lanka, India, Jamaica, and Colombia. The Sims' test shows causality running from infant mortality to fertility in Egypt, Mauritius, India and Colombia, and fertility affecting infant mortality in Mauritius and Puerto Rico.

Title: *Differential age at marriage and fertility in Egypt.* In: Determinants of fertility in some African and Asian countries. Cairo, Egypt, Cairo Demographic Centre, 1982. :51-66. (CDC Research Monograph Series no. 10)

Author(s) Loza, S. F.

Abstract This study investigated the effects of age at marriage on fertility in 5 socio-spatial environments in Egypt. For the cohort 30-34 years of age, the difference in average parity between women who married below age 16 years compared with those who married at 19-21 years was 2 live births in rural areas, 1.6 births in urban villages, 3 births in industrial workers residences, 2.1 births in semi-urban cities, and 1.3 births in urban cities. The average number of births of the same cohort was lower with higher age at marriage in all 5 environments studied. The differences were not as great when duration of marriage was controlled, however. It was also noted that women who marry at a later age tend to have children more frequently in the early years of marriage. The difference in reproductive behavior may reflect the indirect effects of late

age at marriage on fertility. Late marriage may provide opportunities for women to acquire higher education and skills, more equality in marriage, and more awareness of the benefits of small families. The study also examined differential trends in age at marriage. 36% of women in rural areas versus 18% of women in urban cities married below the legal age of 16 years; less than 10% of the former group versus 23% of the latter group married above the age of 20 years. The proportion of women never marrying decreased with increasing age of the cohort, but increased as the macro-environment became more urban. Increases in the degree of urbanization were also associated with substantial increases in the mean age at marriage, with a 4.7 differential in this statistic between the rural areas and urban cities. Urban villages are experiencing the greatest rate of increase in age at marriage, underlining the effects of processes of change and modernization. The results of this study suggest that social and economic changes occurring within the macro-environment can have an important effect on promoting delayed marriage.

Title: *Egypt: USAID population sector assessment 1982. Volume 1: population sector assessment.* [Unpublished] [1982]. 57 p. ((ADSS) AID/DSPE-C-0053)

Author(s) Mauldin WP; Croley HT; Kangas L; Leonard A; McNicoll G; Voulgaropoulos E

Abstract Since September 1977 the US Agency for International Development (USAID) has provided assistance to the government of Egypt in the population sector. Total obligations from USAID for the population and family planning program have reached \$67.5 million with \$23 million of this amount spent as of March 1982. Because 1982 is the final year of the original project, the USAID mission in Cairo requested an outside team to visit Egypt to determine "lesson learned" over this 5 year period and to identify and recommend to USAID a blueprint of activities that might be supported over the next 5 years. This assessment report covers the following: demographic and economic dimensions (fertility and mortality, regional fertility differentials, proximate determinants of fertility, future population growth, implications of continued high fertility, reasons for high fertility in Egypt, and outlook for fertility decline in Egypt); population policy and strategy; the Egyptian family planning program; population policy research; policy and program recommendations; recommendations to improve the delivery of family planning services; population policies beyond family planning; research issues; and special recommendations for considerations. Egypt's population quadrupled between 1900-80. The growth rate reached about 3% per year in the mid-1960s. A gradual fertility decline then began, dropping the rate of increase to 2.1% by 1972. In the most recent decade this fertility decline has stopped, and, in terms of the crude birthrate, reversed. In 1982 the population will grow by about 1.2 million persons, of which some 800,000 will be added in urban areas and 400,000 to rural areas. Continued rural-urban migration gives a marked differential between urban and rural growth rates (3.4% per year urban as against 1.5% rural). Special recommendations for consideration by USAID

include the following: as Egypt is becoming increasingly urbanized, more attention must be given to improving the implementation of urban family planning services, and USAID should provide support to the Cairo Family Planning Association to develop a model urban family planning program; it would be most useful if USAID could encourage better coordination between development activities in both rural and urban areas; and it would be to the advantage of the Population Office if 1 or 2 additional direct hire USAID population officers could be assigned to the Mission.

Title: *Effectiveness of socio-economic factors in determining levels and patterns of fertility: a demography study of Egypt (1950-1979)*. Population Studies. 1982 Oct-Dec ;(63):49-58.

Author(s) Rahman, M. E.

Abstract

Abstract: This is a summary of a Master's Thesis whose objective is to project and evaluate the demographic thought in the fertility concepts, measures, determinants, and policies. This theoretical background is used to analyze the effectiveness of socioeconomic factors in determining the levels and patterns of fertility in Egypt. Using Stepwise Regression, it is demonstrated that the gross national product (GNP) per capita and the illiteracy percentage in the total population are the 2 factors explaining fertility levels in Egypt. Infant mortality, GNP per capita, percentage of nonagricultural workers, and the percentage of contraceptive practice are the 4 factors explaining the corrected actual fertility.

Title: *The influence of individual and community-level child mortality on fertility in Egypt*. Studies in Comparative International Development. 1982 Summer; 17(2):74-86.

Author(s) Rizk, I. A; Stokes, C. S; Nelson, M. R.

Abstract Child mortality was analyzed in relation to 3 dimensions of reproductive behavior: birth intervals, additional children desired, and contraceptive use. Study data were drawn from a 1978 survey conducted in 2 predominantly rural governorates, Beheira and Kafr El-Sheikh, in lower Egypt. Within each governorate, 2 districts were selected on the basis of their distance from the capital of the governorate, agricultural output by major crops, percent of the population urban, infant mortality rate, and crude birthrate. Within each of the 4 districts, villages were randomly drawn from 3 strata: villages lacking any governmental services; villages with limited services (health center or primary school); and villages served by a combined unit center providing integrated services. A random sample of household heads was selected from household registration records of the provision office of each district. 1200 interviews were obtained from 685 households. Restriction of the sample to women with 1 or more live births, and the elimination of 13 cases with incomplete or

inaccurate information, yielded 1010 cases for analysis. The basic measure of actual fertility was birth intervals. For the total sample and within each age category, cumulative fertility is higher the greater the number of child deaths. The data demonstrate a strong relationship between child mortality experience and cumulative fertility. The problem lies in interpreting such results. With some exceptions, birth intervals increased as expected with increasing parity. Women without child death experience displayed longer birth intervals than women who had not lost a child. With the single exception of the 7th parity women, all differences were statistically significant. The data fail to eliminate potential biological influences on subsequent fertility. With biological influences adequately controlled, no behavioral differences remained. Women who experienced child mortality desired greater numbers of additional children than women without child death experience. 19% of respondents were ever users of contraception, with women of low parity the least likely ever to have used contraception.

Title: *Contraception and community in Egypt: a preliminary evaluation of the population/development mix.* Studies in Family Planning. 1982 Dec; 13(12/1):365-72.

Author(s) Stycos, J. M; Bindary, A; Avery, R. C; Khalifa, A. M; Sayed, H. A; Way, A.

Abstract Describes efforts of the Population and Development Program PDP to obtain a reduction in rural fertility in Egypt. By applying a developmental approach, which includes the promotion of family planning and the mobilization of local human and material resources to increase the pace of local socioeconomic development, the program hopes to register gains in the effort to control fertility levels which have been resistant to change despite the existence of family planning services since 1966. This developmental approach, which by June 1982 had programs instituted in 72% of all villages, has not yet appreciably reduced fertility levels in rural areas, where approximately 66% of Egypt's population resides. However, more favorable attitudes toward contraception and greater current practice of modern contraception has been achieved in PDP villages in Upper Egypt. In Lower Egypt, where attitudes are less conservative and knowledge less deficient, the changes were usually in the same direction, but not enough to reach statistical significance. Although program impact was not large, it tended to increase as the target group of women was more narrowly defined as illiterate, married, fecund, noncontracepting previously and who wanted only one additional child. These promising trends in variables proximate to fertility are thought to be forerunners of an eventual fertility decline.

Title: *Review and evaluation of studies on the determinants of fertility in Egypt.* Cairo, Egypt, Supreme Council for Population and Family Planning, Population and Family Planning Board, Research Office, 1981. ii, 74 p. (Population and Family Planning Board Research Office Research Monograph

no. 2)

Author(s) Abou-Gamrah, H.

Abstract This is a review and evaluation of studies published in English and Arabic on the determinants of fertility in Egypt. The studies are selected from a bibliography of population studies in Egypt, which was published in 1979. The first chapter of the present work deals with various theories of fertility determinants. The second chapter reviews the methodology used in studies of fertility determinants and their common characteristics. The final chapter examines the status of knowledge concerning the determinants of fertility. Factors considered include education, occupation, child mortality, female labor force participation, religion, and urban or rural residence

Title: *Some intermediate of fertility in Egypt.* Egyptian Population and Family Planning Review. 1980 Jun;14(1):1-11.

Author(s) el-Rafie M; Mourad IM

Abstract Intermediate variables associated with high fertility rates among low socioeconomic groups in suburban areas in Egypt were identified. 220 women with children between the ages of 0-3 years were randomly selected from Maternal Health Center patients. The average total births for the group was 4.3 and the average total live births was 3.3. High rates of wastage are a suspected motivation for high fertility rates. The mean age at marriage for the group was 17.9 years; however, more than 60% were married at the age of 15. Lactation practices were irregular for a majority of women and may have some effect on resumption of ovulation. In 31.8% of the patients, menstruation began at 6-12 weeks postpartum usually at the beginning of weaning. The mean interpregnancy interval was shorter than 2 years. A majority of women, 71.8%, reported resuming sexual intercourse before the 40th day postpartum, which is prohibited among Moslems. Many women thought that lactation would prevent pregnancy and contraceptives were not widely used at this time. Among the group, non-contraceptors were in the majority, 58.2%. Oral contraceptives (OCs), used by 34.1% of the women, and IUDs, used by 5.9%, were the most common methods used. The use of OCs is thought to be related to early weaning. The results emphasize the need for a postpartum program which offers contraceptive measures which do not interfere with the lactation practices among low socioeconomic groups.

Title: *Levels and differentials of fertility in Egypt: the National Fertility Survey-1974/1975.* Population Studies. 1980 Oct-Dec;(55):11-38

Author(s) Sayed, H. A; El-Khorazaty, M.N.

Abstract A (NFS) National Fertility Survey was carried out in 1974-5 in order to determine the true level and pattern of fertility in Egypt and to examine the fertility differentials according to demographic and socioeconomic

characteristics and family planning knowledge, attitude, and practice. While 15,678 ever-married women were interviewed, only 39% completed the questionnaires. The reported level of fertility measured by the average number of children ever-born for selected ever-married women between 45-9 was 6; urban area fertility levels fell at 6.3. However, the authors conclude that the urban/rural difference in fertility level reflects differential errors in reported data which must be corrected to offer a true estimate of level of fertility in Egypt. In women of different age groups from both urban and rural areas, the curve of number of children ever-born/ever-married women in urban areas is almost linear. For rural areas, the curve is almost linear up to ages 35-9 with the expected curvature then appearing. The estimated marital fertility level for Egypt is 6.7-7.0 children/woman, indication that lifetime marital fertility in Egypt was high in both areas. Fertility levels achieved in those of age group 30-4 appeared to be almost identical with those levels reached by women at the end of the childbearing period (between ages 45-9). An examination of the effects of different socioeconomic variables on fertility behavior and ideal family size is included. Notations are assigned to the different dependent variables (Y1-Y4) and independent variables (X1-X8), and correlation analysis and regression analysis were performed for the variables in question. Results of correlation analysis indicate that with an increased effort in the socioeconomic domain, marital fertility levels in Egypt will decrease below their current levels. The most significant variable affecting ideal family size for women was education and residence. Woman's labor force participation affects fertility behavior but not attitudes towards it. Regression analysis indicated that if the duration of marriage was constant, fertility behavior was not affected by family or origin, residence, or religion. However, activities that consume periods of time during the transition to adulthood (education of husband and wife) affect fertility behavior and reduce its level. This and some other conclusions are the same as those arrived at with correlation analysis.

Title: *The impact of divorce and widowhood on fertility in Egypt.* Egyptian Population and Family Planning Review. 1979 Jun-Dec; 13(1-2):84-94.

Author(s) El-Guindy, M.

Abstract The impact of divorce and widowhood on fertility differs in different societies. In Egypt divorce is permissible by law for Moslems, who make up the majority of the population, and for Christians in some specific situations. The average divorce rate for the 1971-75 period was 2.1%. Spouses of a broken union by divorce may return to the marriage life with each other and "without a new marriage contract" within 3 months of divorce on agreement of the husband. The 1976 Egyptian population census showed that among females aged 16 and older, 19.7% had never been married before, 64.7% were currently married, and 15.6% were divorced or widowed. Comparing 1976 with 1960 population censuses, it was found that the proportion of divorced

and widowed females in 1976 (15.6%) was less than in 1960 (20.4%). The proportion of never married females in 1976 was higher than in 1960 (12.1%). The proportion of women currently married in each reproductive age group did not depend exclusively on the average age at which women marry, and the proportion who never marry. It was also affected by the incidence of divorce and the death of a spouse by the extent to which divorcees and widows remarried and by the time elapsing before remarriage. The age structure of married, divorced, and widowed Egyptian females is reported. The analysis relied primarily on the returns of the National Fertility Sample Survey conducted in 1974-75. Over 15,000 ever married women were interviewed. In the 1st stage of the stratified multistage sample 200 primary sample units (shiakhas and villages) were selected. More than 4/5 of the married respondents were in the childbearing age, i.e., less than age 50. 3.29% were younger than age 20. 31.02% of the divorced and widowed females were in the childbearing age. Most divorce events occurred when spouses were young. 48.5% of the females who were divorced during 1971-75 were younger than 25 years. Divorce reduces the proportion of the reproductive period during which women are exposed to intercourse and consequently would tend to have a depressing effect on fertility. 88% of all marriages were 1st marriages. Only 12% were 2nd, 3rd, or later marriages. Respondents whose marital status by the time of the interview was divorced or widowed had fewer averages of children ever born than married respondents. The standardized average of children ever born was 3.73 for respondents married to 1st husband, 3.15 to remarried respondents, and 2.42 to widowed and divorced respondents.

Title: *Age at marriage in relation to fertility in Egypt.* In: Fertility trends and differentials in Arab countries. Cairo, Cairo Demographic Centre, 1971. p. 107-115

Author(s) El-Guindy, M. H.

Abstract The relationship between age at marriage and fertility in Egypt is examined, with particular emphasis on education, urbanization, and religion as determining factors. Data is based on official vital statistics and population censuses. Age at marriage is important in Egypt, where few people use birth control methods, because it prolongs the child-bearing period. The singulate mean age at marriage for women in Egypt increased by 1.2 years within a 13-year period. All age specific marriage rates, except for women aged 45-49, declined from 1947 to 1960. Education plays a large role in determining age at marriage. Illiterate women marry 4 years younger than women who have graduated from universities or higher institutes. Illiterates marry 2 years earlier than those who have completed the intermediate stage. Age at marriage is expected to increase, due to the expansion of education for women. Rural women tend to marry earlier than urban women, generally about 1 year earlier. The age at marriage of urban women seems to be increasing slightly. In 1960, the singulate mean age at marriage for Egyptian Moslems was 19.7, compared with 21.2 for Christians. However, other factors, such as religious differentials

in educational levels and proportion of women in the labor force, may contribute to this difference.

Title: *The effect of divorce on the level of fertility in Egypt.* In: Fertility trends and differentials in Arab countries. Cairo, Cairo Demographic Centre, 1971. p. 133-139

Author(s) Hanna, B.

Abstract The effect of divorce on the birth rate in Egypt is measured for the years 1962-1967 Data is drawn from the Annual Report of Vital Statistics and the 1960 Egyptian Census. 21.6% of the marriages between 1956 and 1967 ended in divorce. Most of the divorces occurred within the first 5 years of marriage and most of the women were childless. However, even when the fertility rates were calculated for fertile women only, divorced women were found to have must lower fertility. To calculate the extent that divorce reduces total fertility, a cohort of 54,875 divorced women was studied concerning their fertility level. If these women had not divorced, they would have born about 383,028 children. Instead, some of them divorced and never remarried. Some divorced, remarried, and divorced again. Some divorced, remarried, and remained married. Assuming a normal level of fertility, the total expected births for this last category would be 247,000. But the actual number of children born was 35,729, or 14.5% of the expected number. If the total number of averted births is added to the annual number of births between 1962 and 1967, the birth rate would rise from 41.3 to 48.8 per thousand.

Title: *The Link Between Infant Mortality and Fertility in Egypt, Turkey and Yemen.* Paper presented to the 10th Annual Conference of Economic Research Forum for the Arab Countries, Iran and Turkey. Marrakech: December 16-18, 2003.

Author(s) El Daw A. S.

Abstract: The primary objective of this study is to investigate the link between fertility and infant mortality in Egypt, Turkey, and Yemen. The study also examines the impact of education and women's work on fertility. Using data from the (DHS) the paper shows that The TFR in Egypt has been declining steadily from a high of 5.3 children per woman in 1980 to a low of 3.3 children in 1997 and started to rise up until it reached 3.5 children by year 2000 (Egypt DHS, 2000). On the other hand, use of contraception in Egypt has increased steadily from 24 percent in 1980 to 55 percent in 1997, then dropped to 52 percent in 1998 and increased slightly to 56 percent by year 2000(Egypt DHS, 2000). In Turkey in early 1970s, the TFR was estimated at 5 children per woman. The 1993 Turkish DHS shows an estimate of 2.5 children per women and the 1998 Turkish DHS shows an estimate of 2.6 children per woman. On the other hand, in a decade (1988- 1998) use of contraception in Turkey has increased by only

0.5 percent (from 63.4 to 63.9 %). For the Yemen, there is a long way to go before reaching the current fertility level and contraceptive use reached by Turkey or Egypt. Although Turkey and Egypt are considered achieving success stories in fertility transition in the MENA region, yet their success has prematurely braked. They are both still far from reaching the current fertility levels (at or below 2.1 children per woman, the replacement level) and contraceptive use (70% or more) reached by the East Asian countries.

In spite of its importance, use of contraception is not the only way for promoting further fertility declines. Other variables like infant mortality could be of equal importance as well. Historical evidence from demographic transition indicates that fertility decline matches the period of rapid mortality decline in infant and child mortality (Wolpin, 1997). Such pattern has been universally observed and it is an important basis for the conjecture that fertility transition was a result of the changing mortality environment (Mattheissen and McCann, 1978). Figure 1, shows the relationship between fertility and infant mortality for the period 1960-2000. As shown there is a clear strong relationship between fertility and infant mortality, with a correlation value of ranging from 0.73 in 1960 to 0.85 in 2000. According to Demographic and Health Survey (DHS) reports, Infant mortality rates (IMR) in Egypt, Turkey, and Yemen are still high, though declining. The IMR is 44 per 1,000 live birth in Egypt in 2000, 43 in Turkey in 1998, and 75 in Yemen in 1997.

Availability: Soft and Hard copies.

1.1.3 Mortality

Title: *Effect of pre-delivery vaginal antiseptics on maternal and neonatal morbidity and mortality in Egypt.* Journal of Women's Health. 2005;14(6):496-501

Author(s) Bakr A. F; Karkour, T.

Abstract The objective of this study was to determine if cleansing the birth canal with an antiseptic solution at delivery reduces infections in mothers and their newborn babies. Women giving birth in the University Hospital, Alexandria, and their newborns were studied. No intervention for 3 months was followed by 3 months of intervention. Intervention consisted of manually wiping the maternal birth canal with a 0.25% chlorhexidine solution at admission and at every vaginal examination before delivery. Babies were also wiped with chlorhexidine. The study enrolled 4415 women and 4431 newborns. The nonintervention phase comprised 2128 mothers and 2138 newborns, and 2287 mothers and 2293 babies were enrolled in the intervention phase. There were no adverse reactions related to the intervention among the mothers or their children. There was no difference in the overall number of neonatal admissions in both groups, but the admissions because of infection, deaths, and mortalities from infection were significantly less in the intervention group. Among mothers receiving the intervention, admissions, deaths, and infections were significantly reduced. Cleansing the birth canal with chlorhexidine reduced neonatal and maternal postpartum infections. The safety, simplicity, and low

cost of the procedure suggest that it should be considered standard care for the reduction of infant and maternal morbidity and mortality.

Title: *The trend of maternal mortality in Egypt from 1992-2000: an emphasis on regional differences.* Maternal and Child Health Journal. 2005 Mar;9(1):71-82.

Author(s) Gipson R; El Mohandes A; Campbell O; Issa AH; Matta N

Abstract The objective was to review factors contributing to a 52% drop in Egypt's maternal mortality ratio (MMR) per 100,000 live births from 174 in 1992–93 to 84 in 2000. Data on maternal mortality were collected from all 27 governorates in Egypt between 1 January and 31 December 2000. This round of maternal mortality data is compared with the earlier nation wide maternal mortality study in 1992. Health care interventions that may account for the decrease were reviewed. MMR decreased by 51.7% nation wide. This decrease was greater in the less-developed parts of Upper Egypt (59%), than in Lower Egypt (30%). A multifaceted set of interventions were concentrated in Upper Egypt. The greatest decrease in maternal mortality was associated with the area of highest intervention, greatest need, and during the time period of the implementation of this program. There were increases in use of health services; use of modern contraceptives; hospital deliveries; and use of trained birth attendants. For most indicators, the changes were greater in Upper than Lower Egypt. Since 1992–93, efforts by the Government of Egypt and donors to improve access to and the quality and utilization of services can be linked to a greatly reduced MMR.

Title: *Making motherhood safer in Egypt.* Washington, D.C., Population Reference Bureau [PRB], 2004 Mar. [8] p. (MENA Policy Briefs)

Author(s) Khalil K; Roudi-Fahimi F

Abstract Fewer Egyptian women die of maternal causes today than they did 10 or 15 years ago, thanks in large part to the national safe motherhood program. Nevertheless, maternal mortality in Egypt is still relatively high, and the country faces challenges in reducing it further. Many of these challenges involve addressing the delays women face when they need essential obstetric care. In Egypt and other countries, most maternal deaths could be avoided if women had timely access to high-quality emergency obstetric services. Every year about 1,400 Egyptian women and half of their newborns die from complications related to pregnancy and childbirth. Although this level of maternal mortality (84 maternal deaths per 100,000 live births) is relatively high by international standards, recent evidence suggests that a woman's lifetime risk of dying from maternal causes in Egypt has dropped dramatically, from 1 in 120 to 1 in 250 during the 1990s. Egypt's maternal-mortality success story can be told because the country conducted two nationally representative studies less than 10 years apart. These studies make an

exceptional and valuable contribution to the world's understanding of safe motherhood, a health issue for which there is generally a lack of reliable data. The studies' findings also provide insights into the programmatic elements associated with maternal survival.

Title: *Increasing literacy and improving health behaviors in Egypt.* Global Health Link. 2003 Jan-Feb;(119):7

Author(s) Martocci, K.

Abstract Throughout Egypt, girls and women fall far behind their male counterparts in literacy. In Luxor, while official figures show 45 percent of women are illiterate, among poor women; the rate is as high as 75 percent. In response to a request from Egypt's Ministry of Health and Population and the Egyptian Authority for Adult Education (GALAE), World Education has implemented a pilot project that is integrating women's literacy with maternal and child health information in Luxor in an effort to improve both literacy and women's health. Over a two-year period (2000-2002), World Education, in collaboration with John Snow, Inc. (JSI), local government and non-governmental organizations, worked with women learners and literacy facilitators and supervisors to develop and deliver lessons that integrate health education into the government's national basic literacy program. The program initiative has clearly demonstrated that integrating maternal and child health education into a basic literacy curriculum for women can simultaneously increase literacy and help reduce neonatal, child and maternal mortality in Egypt.

Title: *High fertility does not cause spontaneous intrauterine fetal loss: the determinants of spontaneous fetal loss in Egypt.* Social Biology. 2000 Fall-Winter;47(3-4):218-43

Author(s) El-Saadani, S.

Abstract This study is concerned with a major, though relatively neglected, reproductive health issue: fetal loss. In particular, the determinants of spontaneous intrauterine mortality in Egypt are investigated with stress on the demographic determinants. To this end, a conceptual framework is developed. Using pregnancy history data from a national survey conducted in Egypt in 1995, the determinants of spontaneous intrauterine fetal deaths among currently married women aged 18-45 are examined using multiple logistic models. It is found that the probability of intrauterine fetal loss rises with maternal age. The apparent positive association of the risk with gravidity is shown to be an artifact, due to the heterogeneity among women with respect to the risk of pregnancy loss, the consequent selection process, and reproductive compensation behavior according to the "success/failure" stopping rule. Therefore, high fertility cannot be said to cause spontaneous fetal loss. Two other features of a woman's reproduction are of strong significance, namely, her pregnancy history and spacing among pregnancies. Once a woman suffers

from spontaneous fetal loss, the probability of undergoing further pregnancy losses rises sharply. And the shorter the pregnancy interval, the higher the probability of pregnancy loss. Pregnancies conceived after long intervals are less likely to end in loss.

Title: *Birth spacing and infant and child mortality in Egypt.* In: Proceedings of Workshop on: Health Policies for Mother and Child: Findings from Health Surveys in Egypt, edited by El Tigani E. El Tigani, Hoda Rashad, Ahmed A. Moneim, El Daw A. Mohamed. Cairo, Egypt, Central Agency for Public Mobilisation and Statistics [CAPMAS], 1995. :15-26. Workshop organized during the period 28-29 September 1994 by the Egypt Central Agency for Public Mobilisation and Statistics [CAPMAS] and the League of Arab States Pan Arab Project for Child Development [PAPCHILD].

Author(s) Abd El-Fatah, F.

Abstract This study examined the impact of birth interval (BI), prior child survival status, and demographic and socioeconomic determinants of infant (IM) and child mortality (CM) in Egypt. Data were obtained from the 1991 Egypt Maternal and Child Health Survey. Neonatal mortality (NM) was highest among children born with a short BI (under 2 years), regardless of the educational level of the mother. NM, IM, and CM declined as the BI increased. Short BIs and mothers without any schooling were related to high mortality rates among children. CM rates in urban areas were lower than those in rural areas at all BIs. Children with short BIs had higher NM in all regions, especially in rural Upper and urban Lower Egypt. The highest IM and CM rates were among children with short BIs who lived in rural Upper Egypt. IM and CM rates were lower for children with short BIs whose mothers had ever worked for cash. IM and CM risks among children with younger and older mothers were higher at short BIs. Male births had higher mortality at short BIs, but females had higher mortality at BIs of 23-36 months. Mortality risks increased for children born with short BIs at higher birth orders. IM and CM rates were higher for those with a preceding sibling's mortality and a short BI. With biodemographic and socioeconomic controls, NM and CM patterns remained the same. Lower risk of IM and NM occurred when mothers were aged 24-34 years. Birth order and survival status of the preceding child were also significant.

Title: *Levels, trends and determinants of infant mortality in Egypt and Sudan.* In: CDC 24th Annual Seminar on Population Issues and the Challenges in the 21st Century in the Middle East, Africa and Asia. CDC Annual Seminar, 1994, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1995. :510-36. (Cairo Demographic Centre Research Monograph Series No. 24)

Author(s) El-Deeb, B; Abdel Moneim, A; Al Hawary S. G.

Abstract

Abstract: This study examined the determinants of infant mortality in Egypt and the Sudan. Data were obtained from the 1991 Egypt Maternal and Child Health Survey among 9882 eligible ever married women aged 15-49 years and the 1989/90 Sudan Demographic and Health Survey among 5580 eligible ever married women. Findings indicated that infant mortality stood at 59/1000 live births. Most of the decline in the Egyptian infant mortality rate (IMR) occurred during 1987-91. IMR in Sudan was higher. The annual decrease during 1985-90 in Sudan was 3.38%. Bivariate analysis indicates that infant mortality in Egypt was higher among women aged under 20 years or over 40 years. Sudan experienced the same U-shaped pattern of infant mortality. IMR was the lowest among the second to the fifth birth order in both countries. The same J-shaped pattern occurred in both countries for neonatal mortality and post-neonatal mortality. IMR was low among normal weight infants in both countries. IMR was much higher among infants who were not breast fed. The impact of breast feeding was much greater for neonatal mortality. The highest IMR was in rural Upper Egypt (88.6/1000 live births). The highest neonatal mortality was in rural Upper Egypt (41.2/1000 live births) and Darfur, Sudan (62.5/1000). The lowest neonatal rates were in urban governorates in urban Lower Egypt. The lowest infant mortality was in the Central Region of Sudan. Education of the mother had a great influence on the IMR. In the logistic model for Sudan, the highly significant variables were maternal education, breast feeding, older age of the mother, and rural residence. Proximate determinants in Egypt varied in significance and in the nature of the variable. In both countries, sources of water were significant, but the probability was higher in Sudan.

Title: *Lessons learned from maternal mortality study to reduce deaths in Egypt.*
International Journal of Gynecology and Obstetrics. 1995 Oct;50 Suppl 2:S109-11

Author(s) El-Shafei M

Abstract Egypt's Ministry of Health conducted a study to assess the extent of maternal mortality in Egypt, to identify the main causes of maternal mortality, to determine the avoidable factors which contribute to such mortality, and to develop preventive measures to reduce them. Findings are based upon the analysis of data on a random sample of women who died between the ages of 14 and 50 years while pregnant, giving birth, or up to 42 days postpartum. The women's families were interviewed by social workers on the causes and circumstances of death. Egypt has a 174 per 100,000 live births national maternal mortality ratio. Postpartum and ante partum hemorrhage, pregnancy-induced hypertension, genital sepsis, ruptured uterus, cesarean section, spontaneous and induced abortions, and cardiovascular diseases were found to be the major contributors to maternal mortality. The two major avoidable factors were women's and/or their families' delay in seeking or complying with medical care, and the delivery of substandard care by medical personnel. Egypt

does not need to build, equip, and staff new facilities. The country instead needs to make better use of existing personnel and facilities.

Title: *On infant and child mortality in Egypt, 1991.* In: CDC 24th Annual Seminar on Population Issues and the Challenges in the 21st Century in the Middle East, Africa and Asia. CDC Annual Seminar, 1994, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1995. :589-620. (Cairo Demographic Centre Research Monograph Series No. 24)

Author(s) Ibrahim MA; Mohameed AM; Hagrass BA

Abstract This study includes an analysis of levels and trends in infant and child mortality in Egypt, the relationship between environmental housing conditions and child mortality, and regional differences. Data were obtained from the 1991 Egypt Maternal and Child Health Survey among 9862 ever married women aged 15-55 years. Infant and child mortality rates are averaged over the preceding five years before the survey. Environmental housing conditions include sanitation and infrastructure, housing conditions, and health practices within the household. Findings indicate that neonatal and post-neonatal rates were respectively 33/1000 and 29/1000 among births living in rural housing with piped water. In rural households with other sources of drinking water, the rates were respectively 41/1000 and 40/1000. In urban and rural areas, infant and child mortality rates followed the same pattern between births in housing with and without piped water. Rates were always higher among births living in housing that relied on other sources of drinking water. All rates were lower if households had access to flush toilets with or without sewers. Rates were high among households with toilets outside the dwelling and in housing located on a flood plain. Rates were lower if housing was an apartment or villa. Poor housing conditions and hygiene practices were associated with higher rates. Rural Upper Egypt had the poorest environmental health conditions and the highest mortality rates. Findings from the logistic models indicate that infant mortality was highly significantly associated with source and location of drinking water, type of dwelling or floor material or window cover, crowding, and sanitation. Crowding, followed by water storage and electricity had the strongest influence on infant mortality. Child mortality was affected the most by water storage and treatment, followed by having a kitchen inside the house and electricity.

Title: *Towards modeling interactions between population and investment in Egypt.* In: CDC 24th Annual Seminar on Population Issues and the Challenges in the 21st Century in the Middle East, Africa and Asia. CDC Annual Seminar, 1994, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1995. :708-35. (Cairo Demographic Centre Research Monograph Series No. 24)

Author(s) Khalifa M; Mohamed AM; Abou El-Saad AM

Abstract **Abstract:** The authors conducted a study to clarify the relative importance of population variables in designing and adopting plans and policies for economic development. Literature is first reviewed on the modeling of relationships between demography and the economy. An analysis of the available demographic and economic data identified large variations between actual and projected values for some economic variables such as investment, household consumption, and exports. Variations were small between actual and projected values of the other variables. The variations, in general, may be attributed to other effects outside of the model, such as policy effects. The theoretical and practical problems of the study are discussed, as well as the general trend for fertility and mortality in Egypt, the effects of population changes on development, and the effects of economic and social changes on fertility and mortality.

Title: *Some demographic and socio-economic factors associated with child mortality in Egypt.* In: CDC 23rd. Annual Seminar on Population and Development Issues in the Middle East, Africa and Asia. CDC Annual Seminar, 1993, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1994. :973-92. (Cairo Demographic Centre Research Monograph Series No. 23)

Author(s) El-Nashaar, M. A.

Abstract This study analyzes the determinants of child mortality in Egypt. Data were obtained from the 1991 Egypt Maternal and Child Health Survey. The conceptual framework relies on models developed by Mosley and Chen (1983). Proximate variables that directly affect child mortality include the blood relation of the spouse, the age at first marriage, and environmental factors (availability of piped water, type of toilet, sanitation, housing quality, and personal hygiene). Socioeconomic variables include individual, household, and community level variables that influence child mortality indirectly through proximate variables and directly. Estimates of child mortality levels were generated by Brass and Trussell and Preston (1982) procedures. Findings indicate that the socioeconomic factors were highly significantly related to child mortality at the .01 level of significance. Current work of the mother and father's employment in white collar occupations were related statistically and significantly only at the .05 level of significance. All of the variables were associated with a reduction in the child mortality rate, with the exception of blood relation of spouses. Blood relation was associated with increased child mortality. Maternal education had the strongest negative impact on child mortality, followed by piped water, toilet facilities, household income, and father's education. It is concluded that policy should encourage female education and improvement in environmental conditions.

Title: *Ante-natal care and infant mortality in Egypt.* In: CDC 23rd. Annual Seminar on Population and Development Issues in the Middle East, Africa and Asia.

CDC Annual Seminar, 1993, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1994. :1121-47. (Cairo Demographic Centre Research Monograph Series No. 23)

Author(s) Idrees, N.

Abstract This study discusses prenatal care and its effects on infant, neonatal, and post-neonatal mortality in Egypt. Data were obtained from the 1991 Egypt Maternal and Child Health Survey. Findings indicate that 68.9% of urban women received prenatal care compared to only 42.0% of rural women. 44.4% of urban women and only 20.8% of rural women had regular check-ups. Urban governorates had the highest percentage of regular check-ups (54.5%) and the lowest percentage of medical problems (45.5%). Rural Lower Egypt had the lowest regular check-ups (20.7%) and the highest percentage of medical problems (79.3%). Urban women had a higher percentage of check-ups in Upper Egypt compared to Lower Egypt. Increased educational level was associated with increased use of prenatal care. Working mothers (64.6%) had a higher percentage of infants who received prenatal care than nonworking mothers (47.2%). Infant mortality rates were lower among mothers who had regular check-ups (24.8/1000) compared to mothers without medical check-ups (45.6%). Infant mortality rates were higher among mothers who did not receive tetanus immunization. The lowest percentage with no check-ups was in urban governorates, and the highest was in rural Upper Egypt. Lack of prenatal care was highest among women with no education and higher among nonworking women compared to working women. Infant mortality rates were lowest among women without check-ups who had previous experience. Infant mortality was lower at a health facility and with a trained assistant. Risk of infant mortality was very high among infants below the normal birth weight. Logistic model findings indicate that tetanus injection and birth weight had the highest significant effect on infant mortality. Place of delivery and assistance at delivery had a significant net effect only on neonatal mortality

Title: *Exploring the role of environment on morbidity and mortality in Egypt.* In: CDC 23rd. Annual Seminar on Population and Development Issues in the Middle East, Africa and Asia. CDC Annual Seminar, 1993, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1994. :203-33. (Cairo Demographic Centre Research Monograph Series No. 23)

Author(s) Ishak, M. G.

Abstract The author explores the role of environment upon morbidity and mortality in Egypt, considering just how dangerous unfavorable environmental conditions could be on the health and survival likelihood of the population. The risk of the unhealthy environment is considered from both its direct effect upon morbidity and its long-term influence upon mortality. Sections describe the prevailing environmental conditions, the morbid effect of the environment, and the environment and causes of death in Egypt. The paper emphasizes the substantial association between adverse environmental conditions and

relatively high rates of morbidity and mortality, particularly for infants and children under age 5 years. The availability of clean water, sanitary conditions, a means of keeping and disposing garbage, population density, and the degree of pollution have been found to be the most influential environmental factors upon individuals' health and survival probabilities. Intestinal infectious diseases, respiratory system diseases, and hypertensive diseases are also associated with environmental factors.

Title: *Sex differentials in child mortality in Egypt.* In: CDC 23rd. Annual Seminar on Population and Development Issues in the Middle East, Africa and Asia. CDC Annual Seminar, 1993, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1994. :1019-39. (Cairo Demographic Centre Research Monograph Series No. 23

Author(s) Soliman, M. A.

Abstract This study aims to determine whether female child mortality was higher than male child mortality in 1991 and to examine socioeconomic factors related to higher female child mortality in Egypt. Data were obtained from the 1991 Egypt Maternal and Child Health Survey. The analysis involves the direct and indirect estimation of child mortality. Direct estimates are derived from birth history data for children born 5-9 years before the survey date. Findings indicate that the mortality of children aged 1-5 years declined over time. Indirect estimates indicate a higher sex ratio of children ever born for mothers aged 15-19 years compared to the lowest sex ratio among mothers aged 25-29 years: 114 males per 100 females vs. 104 males per 100 females. The proportion of child mortality was higher for female children among women aged over 35 years. The rate of child mortality in 1991 was 30/1000 live births for males and 37/1000 live births for females. The likelihood of mortality was higher for children born to mothers aged under 20 years than for children born to older mothers. The gap between female and male child mortality widened among higher order births (4-6 birth orders). The gender gap was greater in rural areas. Male child mortality was higher than female child mortality in urban governorates. Female child mortality was the highest in rural Upper Egypt. Female child mortality was higher among women who never worked for cash, who never attended school or completed primary school, who had husbands who never attended school, and who had husbands who were manual workers. Multivariate findings indicate that maternal education and standard of living were the key variables significantly associated with lower female than male mortality. Higher female mortality was associated with husband's education, maternal work status, maternal age, and place of residence. Socioeconomic variables explained only 1% of variation.

Title: *Effect of contraceptive use and other factors on infant and child survival.*

Cairo, Egypt, Cairo Demographic Centre, 1993. [2], 21, [4] p. (Cairo Demographic Center Working Paper No. 33)

Author(s) Ahmed, F. A.

Abstract This study examines the determinants of child mortality in Egypt. Data were obtained from the 1991 Egypt Survey of Maternal and Child Health among ever married women. The conceptual model indicates that the socioeconomic variables (education, work status, marital status, type of residence, standard of living, and region of residence) directly affect maternal variables and housing conditions, which are variables that directly affect child mortality. It is hypothesized that the effect of the intermediate variables on child mortality varies according to birth order. Findings indicated that maternal age at birth negatively and significantly affects child mortality. The effect was strongest for high birth orders of five or six. A long birth interval was related to lower mortality at all birth orders. The effect of blood relations between spouses on child mortality was greater at higher birth orders of five or six. The impact of blood relations on the extent of disabilities was not measured. The sex of the preceding birth was unrelated to child mortality, except for the fifth birth order. Social factors, such as education, work, marital status, and type of residence, were insignificantly related to child mortality. Housing conditions did have a significant impact on child mortality. Family income had a significant negative effect on infant and child mortality. Region had a significant effect on infant and child mortality, even after controlling for maternal and social variables. Findings confirm that mortality risk was lower for births following a long birth interval and among older mothers.

Title: *Time series analysis for forecasting both fertility and mortality levels in Egypt until year 2010.* EGYPTIAN POPULATION AND FAMILY PLANNING REVIEW. 1993 Dec; 27(2):67-81.

Author(s) Hussein, M. A.

Abstract Both fertility and mortality in Egypt have declined since 1900. The crude death rate (CDR) has, however, fallen far more than the crude birth rate (CBR), thus causing rapid population growth in the country over the century. The author applies a class of autoregressive integrated moving average (ARIMA) model to analyze a time series of CBR and CDR, deriving predicted values for both CBR and CDR in Egypt over the period 1992-2010. The predictions are used to get predicted values for the natural increase rate over the period. The procedure predicts a steady, but slow decline in the crude death rate coinciding with the original crude death rate time series since World War II, while the predicted values for crude birth rate will continue to move up and down in keeping with the original data reaching approximately 31 per 1000. The rate of natural increase will thus remain high, reaching 26/1000 for the year 2010.

National policies and programs aiming to reduce this rate of natural increase should focus upon reducing the crude birth rate which remains extremely high. A reduction of one per thousand annually is a feasible target capable of rendering the goal of 10 per 1000 natural increase. Reducing infant mortality, enhancing family planning programs, and improving socioeconomic levels are the main tools to that end.

Title: *Maternal mortality in the last two decades in Egypt.* SAUDI MEDICAL JOURNAL. 1992 Mar;13(2):132-6

Author(s) El-Mouelhy MT

Abstract A review of the available studies on pregnancy-related mortality in Egypt in the last two decades revealed high rates of maternal mortality. Maternal mortality rates ranged from almost 15 to 45 per 10,000 live births in community studies and from 37 to just fewer than 200 per 10,000 live births in hospital studies. The major causes of maternal deaths were haemorrhage..., pregnancy-induced hypertension..., sepsis..., rupture of the uterus...and abortion....High rates of maternal mortality were found to correlate with maternal age and parity with highest rates among women older than 35 years and women under 20 years and parity of 5 or more. Official rates were found to be much lower than the rates from the studies reviewed." (SUMMARY IN ARA)

Title: *A reappraisal of how oral rehydration therapy affected mortality in Egypt.* Washington, D.C., World Bank, Population and Human Resources Department, 1992 Nov. 26 p. (Policy Research Working Paper: Population, Health, and Nutrition No. WPS 1052)

Author(s) Rashad H

Abstract The author suggests that "an upper ceiling for the potential impact of oral rehydration therapy in Egypt is a 25 percent reduction in the infant mortality rate." (EXCERPT)

Title: *The mortality impact of oral rehydration therapy in Egypt: re-appraisal of evidence.* In: Child health priorities for the 1990s. Report of a seminar held June 20-22, 1991 at the Johns Hopkins University School of Hygiene and Public Health, Baltimore, Maryland, edited by Kenneth Hill. Baltimore, Maryland, Johns Hopkins University, School of Hygiene and Public Health, Institute for International Programs, 1992 Oct.:135-60.

Author(s) Rashad H

Abstract The author uses a regression discontinuity analysis to reevaluate various earlier studies which indicated a positive effect of oral rehydration therapy (ORT) which the National Control of Diarrheal Diseases Project (NCDDP) in Egypt promoted. This analysis clarifies the value of the first 2 steps of impact

evaluation (conceptualization and implementation). The NCDDP/ORT impact evaluations should have examined the conceptualization, or more specifically, the likely theoretical impact of eradicating all dehydration deaths in Egypt. Few detailed base line epidemiological studies exist with which to measure likely dehydration mortality in Egypt. Further, oral rehydration salts appear to have a limited effect on reducing mortality from dysentery or chronic diarrhea. Implementation data of most concern to evaluate impact are ORS utilization and quality of use. The regression discontinuity analysis uses a pretest and posttest design to examine time series data. When the author assumes the higher level of ORS use (42%) and acknowledges other treatments by type of diarrheal episodes, the expected reduction in infant mortality is 19%. Yet, ORT has a highest potential reduction of infant mortality of 25% in Egypt. NCDDP/ORT may be responsible for the reduction in infant mortality between 1984 and 1985. Yet, the lack of increase in the speed of decline of infant mortality after 1985 either means that increased vaccination levels did not result in mortality reductions or that NCDDP/ORT effects fell over time. Nevertheless, the author follows the logic of disproof to conclude that NCDDP efforts account for the mean decline in infant mortality of about 8/1000 between 1975 and 1988. Following this logic demonstrates the need to further study infant mortality data and various programs' data to identify what mechanisms are responsible for the decline in infant mortality.

Title: *Egyptian child mortality: a household, proximate determinants approach.* JOURNAL OF DEVELOPING AREAS. 1991 Jul;25(4):541-52.

Author(s) Aly HY

Abstract The author attempts to analyze the causes of childhood mortality in Egypt. Following a review of the direct, indirect, and proximate determinants approaches to analyzing mortality, the author presents the empirical models used in the estimation process. Data are from the 1980 World Fertility Survey for Egypt. Factors considered include number of pregnancies, blood relationship between spouses, breast-feeding, water quality, electricity supply, crowdedness of living conditions, and the adequacy of the sewer system.

Title: *Gender difference in child mortality.* EGYPTIAN POPULATION AND FAMILY PLANNING REVIEW. 1990 Dec; 24(2):60-79.

Author(s) Ahmed FA

Abstract 1976 census data and data on births to 8788 ever married women from the 1980 Egyptian Fertility Survey were analyzed to determine if son preference was responsible for higher mortality among girls than among boys and what factors were associated with this higher mortality. During 0-3 years, boys were more likely to die than females. For example, the overall male-female sex ratio for the 1st year was 118:100. At ages 5, 10, 15, and 20, however, girls were more likely to die. The sex ratios for these years were 98, 95, 93, and 91. In

fact, the excess mortality among illiterate mothers accounted for most of the overall excess mortality. As mother's educational level rose, the excess mortality of girls fell, so that by university level boys experienced excess mortality (130, 111, 112, 105). Less educated mothers breast fed sons longer and waited more months after birth of a son to have another child indicating son preference, but these factors did not necessarily contribute to excess mortality. The major cause of female excess mortality in Egypt was that boys received favored treatment of digestive and respiratory illnesses as indicated by accessibility to a pharmacy ($p < .01$). Norms/traditions and religion played a significant role in excess mortality. The effect of norms/traditions was greater than religion, however. Mother's current and past employment strongly contributed to reducing girls' mortality levels ($p < .01$). These results indicated that Egypt should strive to increase the educational level of females and work opportunities for women to reduce female child mortality. Further, it should work to improve women's status which in turn will reduce norms/traditions that encourage son preference and higher mortality level for girls.

Title: *Demographic and socioeconomic factors affecting infant mortality in Egypt.* JOURNAL OF BIOSOCIAL SCIENCE. 1990 Oct;22(4):447-51

Author(s) Aly HY

Abstract "This paper analyses the relative importance of demographic and socioeconomic factors with respect to their role in reducing infant mortality in Egypt. Logit analyses of data from a nationally representative sample of Egyptian households, and for urban and rural households separately, indicate that demographic factors have more effect on infant mortality than socioeconomic factors....One of the most important policy conclusions...concerns the importance of providing a vigorous educational campaign to enlighten mothers and prospective mothers in both rural and urban areas on the positive effects of breast-feeding, longer birth intervals, and fewer children on the survival of infants."

Title: *Infant and child mortality in Egypt depending on the results of 1980 EFS and 1988 EDHS.* [Unpublished] [1990]. [19] p.

Author(s) El-Deeb B

Abstract In the context of the comparable World surveys, Egypt has conducted two main studies the Egyptian Fertility Survey (1980) and the Egyptian Demographic Health Surveys (1988). In addition to the surplus information collected in these two surveys on different topics such as fertility, marriage, and environmental conditions, these two surveys could be considered excellent sources of data on infant and child mortality. Since, they offered information that help in studying the level of both infant and child mortality-directly and indirectly in addition to their differentials among subgroups. Studying infant and child mortality differentials could lead to the significant factors that affect

the level of infant and child mortality in Egypt. Moreover, throughout comparison between these valuable information collected in EFS (1980) and EDHS (1988), we can highlight the changes in these key factors that largely affect both infant and child mortality during the reference period of study (1980-1988), which could help in modifying our targets towards these new factors in order to attain more and more decreases in IMR and CMR in Egypt.

Title: *Effect of diarrhoeal disease control on infant and childhood mortality in Egypt.* Lancet. 1990 Feb 10;335(8685):334-8.

Author(s) El-Rafie M; Hassouna WA; Hirschhorn N; Loza S; Miller P; Nagaty A; Nasser S; Riyad S

Abstract The effect of the National Control of Diarrheal Diseases Project, started in 1983, on infant and childhood mortality in Egypt was assessed by means of national civil registration data, nationwide cluster sample surveys of households, and local area studies. Packets of oral rehydration salts are now widely accessible; oral rehydration therapy is used correctly in most episodes of diarrhea; most mothers continue to feed infants and children during the child's illness; and most physicians prescribe oral rehydration therapy. These changes in the management of acute diarrhea are associated with a sharp decrease in mortality from diarrhea, while deaths from other causes remain nearly constant. (Author's).

Title: *Community factors influencing infant and child mortality in Egypt.* In: Studies in African and Asian demography: CDC Annual Seminar, 1988. Cairo, Egypt, Cairo Demographic Centre, 1989. :211-27.

Author(s) El-Deeb B

Abstract The present study deals with the examination of the community factors affecting infant and child mortality in Egypt." Data are from the 1980 Egyptian Fertility Survey and other published sources.

Title: *Impact of child loss experience on fertility behavior in Egypt.* Cairo, Egypt, Cairo Demographic Centre, 1989. [4], 111 p. Master's thesis, Cairo Demographic Centre, 1989

Author(s) Hamed, M. E.

Abstract The relationship between child loss and reproductive behavior was investigated in data from the 1980 Egyptian Fertility Survey. Of the 7817 ever-married respondents with at least 1 child, 48% had experienced no child loss, 23% had experienced the death of 1 child, and 29% had 2 or more child deaths. Those who had experienced child loss had a lower age at marriage, higher family size ideals, higher fertility, and lower levels of contraceptive use than their counterparts who children survived. The mean number of children ever born was 3.1 among women with no child loss, 4.6 among those who lost 1

child, and 7.4 among women with 2 or more child deaths. Parity progression ratio analysis indicated that 77% of women with no child loss, 83% of those with 1 child death, and 90% of women with 2 or more child losses went on to have an additional birth. The expected number of additional children at parity 1 was 3.2, 4.5, and 6.4 for women with no, 1, or 2 or more child losses, respectively. Moreover, both ever-use and current-use of contraception were inversely associated with child loss; 52%, 43%, and 33% of women with 0,1, and 2 or more child losses, respectively, fell into the former category, while 44%, 32%, and 24% were in the current-use category. Multivariate analysis indicated that the breastfeeding duration of the penultimate child, the survivorship status of that child, and contraceptive usage were the most significant determinants of the length of birth intervals. From these data, it was not possible to assess the extent to which substitution versus the replacement effect were operative. However, the survey findings point to a need for an expansion of primary health care services, including contraception for child spacing, to curb the high rates of infant and child mortality in Egypt that clearly inflate family size.

Title: *Oral rehydration therapy and its effect on child mortality in Egypt.* JOURNAL OF BIOSOCIAL SCIENCE. SUPPLEMENT. 1989; 10 Suppl: 105-13.

Author(s) Rashad H

Abstract This paper attempts to assess the demographic effect of the Egyptian National Control of Diarrhoeal Disease Project, which was launched in February 1984 to reduce dehydration-specific mortality resulting from acute diarrhea. The program was aimed at increasing the use of oral rehydration therapy, defined as the use of oral rehydration salts at the onset of diarrhoeal attacks, as well as continued feeding, especially breast feeding, during diarrhoeal episodes. This study analyzes the demographic effect of the program and provides guidelines for future evaluation studies to test casual relationships between health intervention programs and observed changes in mortality. The 1st double-round survey was carried out in 1984-1985, covering 10,739 children, and the 2nd in 1985-1986, covering a similar number of children. Mortality statistics for Egypt indicate strong declines in mortality rates and in diarrhoeal-associated mortality. The existence of a national program for control of diarrhoeal disease has led to the general feeling that the program has shown its effect on mortality. The fact that association does not imply causation is not always welcome, especially when proving causation is not straightforward. The analysis does not disprove the demographic effect of the program, but for conclusions to be expressed more positively it is necessary to eliminate some of the flaws.

Title: *The effect of birth spacing on infant and child mortality. In: Egypt: demographic responses to modernization,* edited by Awad M. Hallouda,

Samir Farid and Susan H. Cochrane. Cairo, Egypt, Central Agency for Public Mobilization and Statistics, 1988. :215-37

Author(s) Callum C; Cleland J

Abstract Two dominant findings have emerged from this detailed analysis of the impact of birth spacing on infant and child mortality in Egypt, using 1980 Egyptian Fertility Survey data. The 1st concerns the effect of the length of the immediate preceding birth interval. Children born after long intervals of 4 or more years are much less likely to die in infancy and childhood than children born after shorter intervals. The shorter the preceding interval, the greater becomes the risk of dying. The adverse effect of a short interval is strong in the 1st month of life but is even more pronounced at the post-neonatal stage, in the 2nd year of life, and between the ages of 2 and 5 years. Excluding 1st births, and after taking into account the confounding fact that the survivorship of siblings is correlated, the results can be summarized in terms of the percentage of children who die before the age of 5 years according to the length of birth interval. For birth intervals of less than 2 years, 30.1% of the children die before the age of 5. For intervals of 2 years, the percentage becomes 17.7, for intervals of 3 years the percentage is 12.4, and for intervals of more than 4 years, only 8.6% die before their 5th birthday. This striking relationship persists regardless of the socioeconomic status of the family, the region of residence, the birth order of sex of the child, or maternal age. If more prolonged spacing of births could be achieved, presumably through a better delivery of postpartum family planning services, this could entail not only a reduction in fertility but a substantial reduction in mortality as well.

Title: *Differentials in infant and child mortality.* In: Egypt: demographic responses to modernization, edited by Awad M. Hallouda, Samir Farid and Susan H. Cochrane. Cairo, Egypt, Central Agency for Public Mobilisation and Statistics, 1988. :179-213.

Author(s) Eid I; Casterline JB

Abstract This study examines infant and child mortality from 1970-1979 to 1) provide estimates of the levels of infant and early childhood mortality, 2) investigate mortality differentials according to demographic and socioeconomic variables and, for rural areas only, characteristics of villages, and 3) identify the net effects of demographic, socioeconomic, and village characteristics through a multivariate analysis. The data come from the 1980 Egyptian Fertility Survey. Despite substantial declines in infant and child mortality in Egypt in the past 3 decades, the rates remain high. Estimates for the latter half of the 1970s indicate that roughly 1 out of 8 children die in the 1st year of life and roughly 1 out of 5 in the 1st 5 years of life. The rates are even higher in the rural areas, where majorities of the births occur. Here nearly 1/4 of the children die before reaching age 5, with the fraction approaching 1/3 in some parts of Upper Egypt. Relationships between the education of the parents and the probability of survival of their children are relatively weak, although there is some

evidence that parental education may effect survival after infancy. The accessibility of medical services, as measured by geographic proximity of the services, shows essentially no association with the level of infant and early childhood mortality in rural areas. These are surprising findings which provoke further questions. The educational level of Egyptian women is low, especially in rural areas; as the proportion of women with primary or higher education increases, will a relationship between education and child survival emerge? The authors have assumed that the educational attainment of the father in part represents the socioeconomic status of the household; would more direct indicators of household status yield the expected associations with child mortality. Finally, there is the perplexing problem of the lack of observed effects of the proximity of health services. This analysis has identified powerful determinants of child survival in Egypt which carry implications for public policy.

Title: *Quantitative analysis of the relationship between child mortality and fertility in Egypt, Sudan, Kenya and Lesotho.* In: African Population Conference/Congres Africain de Population, Dakar, Senegal, November/novembre 7-12, 1988. Liege, Belgium, International Union for the Scientific Study of Population, 1988. :3.3.17-33.

Author(s) El-Deeb B

Abstract The study examines the relationship between fertility and infant and child mortality in Egypt, Sudan Kenya, and Lesotho using multivariate analysis in order to exclude the interrelationships between different variables introduced in the study and for having the pure effect of each variable on fertility behavior and fertility norms. Data analyzed come from the Lesotho Fertility Survey of 1977, the Kenya Fertility Survey of 1977-1978, the Sudan Fertility Survey of 1979, and the Egyptian Fertility Survey of 1980. To identify the rank of the effect of child mortality on lifetime fertility, some other important factors such as duration of marriage, wife's educational level, wife's work status, husband's occupation, place of residence, and religion are introduced. The results demonstrate that, if duration of marriage is excluded, the effect of child mortality on lifetime fertility has the 1st rank in Egypt, Sudan, and Lesotho, while it has the 3rd rank in Kenya. The substitute effect of child mortality was lower than the unity in all countries under study except among Egyptian women having only 1 child ever born alive. Women who lost 100% of children ever born had a higher average number of children ever born of 1.6 in Egypt, .9 in Lesotho, .5 in Kenya, and .4 in Sudan, as compared with the average number of children ever born among women who did not suffer from child loss. Nevertheless, the analysis shows that the highest effect of child mortality on lifetime fertility is shown in Egypt and the lowest in Sudan and Kenya while that of Lesotho came in between.

Title: *Maternal mortality in Egypt and abroad.* In: Proceedings of the Safe

Motherhood Conference, February 24-26, 1988, Etap Hotel, Ismailia, Egypt. A joint meeting of the Egyptian Society of Gynaecology and Obstetrics, and the Egyptian Fertility Care Society. [Cairo], Egypt, Egyptian Society of Gynaecology and Obstetrics, 1988. :13-22

Author(s) Fortney J

Abstract Maternal mortality (MM) has become a challenge for contemporary medical science. Funding for research is available as a result of the activities of several prominent researchers. There is a 25-100% rate of underreporting of MM even in the US. In Egypt less than 1/2 of maternal deaths are reported. Historical trends in England, France, and Germany indicated that improvements occurred only in the 20th century (except for Semmelweis's discovery of antisepsis): improvement of transportation, safe cesarean sections, antibiotics, and family planning (FP). In Iceland no maternal deaths were reported, and in Liechtenstein the rate is under 10/100,000 live births. Somewhat outdated figures indicated MM rate of 7 in Sweden, 18 in England, and 19 in the US (about 10 at present). Unavailability of FP in Georgia produced a MM rate of 48 in 1975-76; and 37 in Puerto Rico in 1978-79. Among Faith Assembly Church members in 1975-82 the rate reached 872. 95% of MM occurs in developing countries. The MM rate reached 798 in India, 1540 in Nepal (sample of 12 deaths), 623 in Bangladesh, 720 in Indonesia, and 2362 in the Gambia (sample of 15 deaths). In Egypt the national MM rate was 78; in Lower Egypt it was 190; and in Upper Egypt the national MM rate was 78; in Lower Egypt it was 190; and in Upper Egypt it was 471. In Bangladesh in Matlab Thana life time risk in 1970 was 1 in 35 owing to an average of 6; reduction to 4 births slashed lifetime risk to 1 in 77. The cessation of births from those under 20 and over 40 would slash MM by 58%. The increase of family planning to 50% among fertile women would cut down MM by 2/3. Reduction of MM lines in antenatal care and accessible hospital deliveries with proper medical care rather than expensive technology.

Title: *Levels, trends and differentials of infant and child mortality in Egypt.* In: Studies in African and Asian Demography: CDC Annual Seminar, 1987. Cairo, Egypt, Cairo Demographic Centre, 1988. :171-97. (CDC Research Monograph Series No. 17)

Author(s) Hamed ME

Abstract Differentials in infant and child mortality in Egypt are investigated using data from the 1984 Egyptian Contraceptive Prevalence Survey. Regional, demographic, and socioeconomic factors are taken into account in a multivariate analysis. The analysis indicates that "raising age at first marriage, improving the health and socioeconomic conditions of rural areas and raising the levels of educational attainment in general will probably lead to considerable reduction in infant and child mortality.

Title: *Household income and child survival.* In: Egypt: demographic responses to modernization, edited by Awad M. Hallouda, Samir Farid and Susan H. Cochrane. Cairo, Egypt, Central Agency for Public Mobilization and Statistics, 1988. :279-313.

Author(s) Ismail AF; Casterline JB; Cooksey EC

Abstract This paper estimates the effects of income on infant and early childhood mortality in Egypt, using data from the 1980 Egyptian Fertility Survey. The analysis, which incorporates 4 additional socioeconomic factors and a set of proximate determinants and intervening variables, compares the effects of income with those of the other background variables and begins to trace the channels and mechanisms through which income may exert an effect on child survival. Methodologically, the authors experiment with a variety of ways to measure income, including the construction of 2 proxy measures. No impact of household income on childhood mortality is evident during the 1st 12 months of life, but the effects are pronounced during early childhood. The impact of household income on childhood mortality persists with controls for all other variables incorporated in the analysis. The data suggest that the impact of income is somewhat greater for educated mothers, when the father is of higher socioeconomic status and where there is piped water to the dwelling. Although the main objective of the analysis is to examine income effects, provocative findings regarding the effects of several other variables also emerge. Infant, but not child, mortality is markedly higher in Upper Egypt. Neither infant nor child mortality vary according to the type of place of residence once other variables are controlled. There is no evidence of a significant association between the household's type of toilet facilities and infant or child survival. Provision of piped water to the dwelling is associated with higher survival probabilities during early childhood. In contrast, children in households relying on water from public faucets experience lower survival probabilities at this age. Consistent with previous analyses of Egyptian data and data from other settings, mothers' demographic characteristics consistently show the most substantial and pervasive impacts on infant and child mortality among the set of variables examined. Finally, maternal schooling shows modest effects at best on infant and child mortality.

Title: *Maternal health and infant mortality in Egypt.* Cairo, Egypt, CAPMAS, Population Studies and Research Centre, 1987 Mar. [4], vii, 146 p.

Author(s) Egypt. Central Agency for Public Mobilization and Statistics [CAPMAS]. Population Studies and Research Centre

Abstract The objectives of the study were estimating levels of both infant mortality and pregnancy wastage, examining the association between the incidence of these events and selected socioeconomic and bio-demographic factors, examining the effects of measures of household sanitation and provision of electricity on the survival chances of infants, and investigating the effects of health and morbidity of mothers on levels of infant mortality and pregnancy outcomes.

The analysis of infant mortality indicated that the estimated level for all of Egypt for the year 1980 stood at 116 infant deaths per 1000 live births, while regional differences in levels of infant mortality were reflected by survey data. Households that had electricity and, particularly, access to purified water within the dwelling were less likely to experience infant mortality than their counterparts. Demographic and reproductive characteristics of the mother showed a substantial impact on infant mortality. Pregnancy wastage per 1000 pregnancies was estimated at 131: 108 abortions and 23 stillbirths. A strong association was found with experience of pregnancy wastage. The analysis of maternal morbidity and health and health care utilization in relation to infant mortality and pregnancy wastage revealed the lowest pregnancy wastage rate for women reporting no uterine bleeding (115/1000), with pregnancy rates of 626, 759, and 860 per 1000 for doctor-treated, other-treated, and untreated cases. The incidence of uterine bleeding, chronic health problems, and premature labor were significant health indicators of pregnancy wastage. The analysis indicated a significant relationship between type of delivery and subsequent mortality. Family planning program aspects were directed at increasing awareness about infant and maternal health hazards associated with unfavorable childbearing patterns. Essential health care for mothers during pregnancy should be accessible. Adequate training of traditional midwives and providing them with the necessary equipment and tools to deal with obstetric emergencies should be expanded.

Title: *Infant and child mortality in Egypt: an economic, proximate determinants approach.* Ann Arbor, Michigan, University Microfilms International, 1987. ix, 154 p. Doctoral dissertation, Southern Illinois University at Carbondale, 1987

Author(s) Aly HY

Abstract There are 2 basic economic approaches to analyzing infant and child mortality (ICM). 1 approach called the Chicago School Approach treats health determinants and ICM as endogenous, choice variables. The demand for these and other variables is affected by exogenous variables in the budget constraint such as prices and wage rates. It makes little sense in this approach to describe ICM as a function of health determinants because both are endogenous. An alternative economic approach called the proximate determinants approach, sees ICM as largely the unintended consequence of other choices. In this approach, these other choices constitute the proximate determinants which may be entirely endogenous or may be partly determined by the socioeconomic group to which the parents belong. In this approach, it makes sense to describe ICM as a function of the proximate determinants. Ideally, the relationship between these 2 approaches could be explained within the context of a structural model of family choice. In practice, however, data limitations require a choice between 2 alternatives. 1st, aggregate exogenous variables such as prices, wage rates, and perhaps income are used to estimate the demand for infant and child health. 2nd, micro data on proximate determinants

of ICM are used to explain and estimate individual ICM. In this study, the 2nd approach is the one taken to identify ICM determinants and to measure their impacts on household ICM rates. In addition, differences in ICM determinants between geographical locations and by maternal age are examined. The estimating techniques include ordinary least squares, logit analysis, and 2-stage least squares. Chow tests are used to examine possible regional and age group structural differences. Detailed data from the Egyptian Fertility Survey, which is part of the World Fertility Survey, are used in the same estimations. The relationships investigated have not previously been adequately explored because of lack of such data. Some results which are of interest include the substantial relationship between breastfeeding and ICM. Also, a direct relationship between ICM and blood relationship between spouses has been determined. Implications of these results for policymakers are explored. Some suggested actions considered include dropping subsidies on many baby food substitutes, increasing the availability and usage of oral rehydration therapy, and establishing genetic counseling programs.

Title: *Maternal mortality in Egypt.* JOURNAL OF TROPICAL PEDIATRICS. 1987 Dec;33(Suppl 4):11-3. Papers from the Symposium on Maternal and Child Health in the Middle East--Selected Trends and Issues sponsored by the G.E. von Grunebaum Center for Near Eastern Studies and UCLA School of Public Health, Los Angeles, California, May 30, 1984.

Author(s) Gadalla S; Fortney JA; Saleh S; Kane T; Potts M

Abstract Egypt is one of few developing nations that has estimated national maternal mortality. A recent evaluation of vital statistics in Egypt found that registration of deaths of females in reproductive ages is virtually complete nationwide, but accurate classification of deaths by cause, especially for maternal deaths, is more difficult. This paper examines maternal mortality in the rural Egyptian delta governorate of Manoufia and determines its importance as a cause of death in married women of reproductive age (15-49). The maternal mortality ratio was 190/100,000 live births, and the maternal mortality rate was 45/100,000 women of reproductive age. Menoufia's maternal mortality ratio is 20 times that of the US, suggesting that many maternal deaths could be prevented, either by avoiding high-risk pregnancies, through appropriate management of pregnancies and deliveries, or through appropriate referral and management of complicated deliveries. If all women 30 years old or more or who already had 3 or more children voluntarily stopped having children, then nearly 67% of maternal deaths could be averted. Because these groups are already the target of family planning programs, this approach may have the greatest lasting impact on maternal mortality. Another approach is to train traditional birth attendants to better recognize and refer high-risk patients, and to deal appropriately with the most frequent emergencies.

Title: *Executive summary: background, major findings, and policy implications.*

In: Maternal health and infant mortality in Egypt, [compiled by] Egypt. Central Agency for Public Mobilization and Statistics. Population Studies and Research Centre. [Cairo], Egypt, Central Agency for Public Mobilization and Statistics, Population Studies and Research Centre, 1987 Mar. :1-15

Author(s) Nawar, L.

Abstract Recent research on infant mortality in Egypt indicated a 116/1000 death rate of infants in 1980. Investigations in infant mortality considered housing conditions, social/economic factors, and demographic factors using tabular and multivariable analysis. Results indicated highest levels of infant mortality occurred in homes with no access to purified water. Mortality rates increased after the 2nd birth and births thereafter, and closely spaced births increased the risk. As educational levels of the mother and father increase, the mortality rate of infants decrease. The abortion rate was found to be 131/1000 and higher in urban areas than rural. Surveys of health care services showed that contact was low and only used when there are illnesses or pregnancies. Since it is illegal to have abortions in Egypt, the reporting of the numbers may be low. A good contraceptive program can reduce these health risks and save many lives. Family planning programs can be directed at the higher risk groups, the very young and older women. The lack of ongoing health care should be addressed and preventive care considered, since most women do not seek care often. Since 1.3 of households do not have access to pure water, especially in rural areas, policies should promote accessibility to it. There is a need to promote education about health services, using pure water, sanitation and immunization. In addition, information on nutrition should be provided for mothers and infants on a continuing basis. More research needs to be done, especially in areas of accessibility, in relation to community characteristics that effect the social, cultural, economic, and physical environment of mothers and infants.

Title: *Measures and magnitude of maternal mortality: the case of Egypt*. [Unpublished] 1986. Paper presented at the Population Association of America Annual Meeting, San Francisco, April 3-5, 1986. 35, [6] p.

Author(s) Kane TT; Potter LS; Nichols D; Gadalla S; Saleh S; El-Kady A

Abstract Incomplete death registration systems and incorrect or missing diagnoses of causes of death have made the accurate measurement of maternal mortality in developing countries extremely difficult. This paper explores several methods, which have been used in Egypt. Results of recent investigations in Cairo, Giza, Menoufia, Assiut, and Alexandria are presented and compared, with major emphasis on the data collection methods used, maternal mortality rates estimated, and causes of death reported in each study. Innovative approaches include 1) the population-based Reproductive Age Mortality Study (RAMOS) in which deaths to women aged 15-49 are identified through the death registration system, and family members of the deceased are interviewed using a symptoms questionnaire; 2) a retrospective sample survey of males 20-60 in

which widowers are identified and asked about the symptoms prior to and circumstances surrounding their wives' deaths; and 3) interviews with traditional birth attendants to assess their experiences with maternal mortality. 3 adjustment procedures are applied to national estimates of the maternal mortality ratio. The results indicate that maternal mortality in Egypt may be significantly higher than the official estimates of 78/100,000 and may be as high as 100-250/100,000, or up to 3 times as high as the official rate.

Title: *Sex differentials in infant and child mortality in Egypt.* Ann Arbor, Michigan, University Microfilms International, 1986. Xiv, 301 p. (8629436) Publication order number DA8629436. Doctoral dissertation, Princeton University, 1986

Author(s) Makinson C

Abstract The causes of differential child survival in Egypt were analyzed on 3- 23-month old children using the Mosley-Chen framework. Although biological evidence predicts equal or lower mortality for females, post- neonatal mortality is 12% higher and 2nd year mortality 60% higher for females, regardless of region, socio-economic status, demographic variables or sex of older siblings. Exceptions included urban Upper Egypt where excess female mortality was higher, and university-educated mothers whose mortality rates did not differ by gender. Girls' nutritional status was poorer than boys, especially supplementary feeds of fruits, vegetables and proteins during weaning. Breastfeeding was shorter for girls, but did not affect nutritional status. Although girls has less diarrhea, their case-fatality rate was higher because of poorer nutritional status and less medical care. Cultural evidence suggests that parents unintentionally are socialized to believe that boys are weaker and need more nurturing, and that social status and marital security for women is measured by bearing surviving sons. A review of the relevant literature suggests that this view is prevalent in the Middle East, Middle South Asia, East Asia, parts of Latin America and the Indian sub-continent.

Title: *Infant and child mortality in Egypt.* [Cairo], Egypt, Central Agency for Public Mobilization and Statistics, Population Studies and Research Centre, 1986 Mar. [11], 120, [1] p

Author(s) Nawar L; El-Deeb B; Nizamuddin M; Tourkey FG

Abstract A rigorous analysis of the findings of previous surveys and studies was conducted to develop a cohesive picture of infant and child mortality levels, trends, and differentials in Egypt. During 1975-80, Egypt's infant mortality was in the range of 101-132/1000 live births. Although the data consistently revealed a pattern of declining infant mortality, rates remain unacceptably high in rural areas and there is significant under-reporting of infant deaths in rural Upper Egypt. The risk of an infant death was positively associated with maternal age under 18 years, high parity, a birth interval less than 18 months,

and bottle rather than breastfeeding. The socioeconomic variables associated with infant mortality included maternal education, father's occupation and education, place of residence, and mother's work status. There is growing evidence that educated women not only advocate beneficial health beliefs and practices, but also make more effective use of modern health services, including family planning. Thus, promotion of female education--currently a concern of the Egyptian government--should be given high priority for its role in preventing infant deaths. The substantial effect of breastfeeding on infant health also needs emphasis. If family planning services were more widely available, especially in rural areas, births could be concentrated more among women at lowest risk of infant mortality--i.e., those 30-39 years old, with a birth order of 2 or 3 and a birth interval of at least 2 years. Before efficient maternal-child health/family planning programs can be designed and implemented in Egypt, there is a need for mortality and morbidity data on the country overall and for the different regions and special target groups. Also needed is an evaluation of the efficacy, effectiveness, and utilization of Egypt's existing health care system. Formation of an inter-ministerial task force is recommended to facilitate all child survival activities.

Title: *Analysis of infant mortality in Egypt using the Hogan model.* [Unpublished] 1985. Presented at the Annual Meeting of the Population Association of America, Boston, Massachusetts, March 28-30, 1985. 8, [32] p

Author(s) Johnson PD

Abstract This paper fits the Hogan model to data from 1966-79 on infant mortality in Egypt. This application produced estimates similar to those obtained using other methods. Comparison of registered deaths by age to those estimated by the model showed an underreporting of early infant deaths. The Hogan model was also fitted to data for urban areas by governorate for the year 1973 and showed less variation in completeness than other techniques. This model has several advantages for the estimation of infant mortality based on reports of children ever born and children surviving: 1) it provides information about which deaths are under-registered; 2) it is based on directly observed data from a vital registration system; 3) the model deals only with infant mortality; and 4) the estimates refer to the time of the data. However, the lack of sufficient good quality data means that the residual score cannot be estimated, producing a wide variation in possible levels of infant mortality. To more fully assess the usefulness of the Hogan model, it is recommended that it be applied to other developing countries. Procedures for modeling infant mortality with a more detailed set of ages should also be developed.

Title: *Studies in African and Asian demography:* CDC annual seminar, 1983, Cairo, Egypt, Cairo Demographic Centre, 1984. 732 p. (CDC Research Monograph Series no. 12)

Author(s) Cairo Demographic Centre

Abstract This book contains the opening address and 27 papers presented in Cairo, Egypt, at the Cairo Demographic Center's annual seminar, December 18-20, 1983. The papers are grouped according to six general areas of interest: fertility and mortality in Egypt, labor force and migration in Egypt, Arab demography, African demography, fertility in Asia, and nuptiality and other demographic problems in Asia.

Title: *Present status of prenatal mortality in Egypt: reappraisal [abstract]* In: Medical education in the field of primary maternal child health care [edited by] M.M. Fayad, M.I. Abdalla, Ibrahim I. Ibrahim, Mohamed A. Bayad. [Cairo, Egypt, Cairo University, Faculty of Medicine, Dept. of Obstetrics and Gynecology, 1984]. :376-7. Proceedings of international conference, Cairo, Egypt, December 5-7, 1983

Author(s) Aboulghar A; Hussein M

Abstract A detailed analytical study of perinatal mortality in the general and private hospital patient population in Egypt was performed. A high perinatal mortality rate was noted in general hospital patients, whereas in private practice, a strikingly lower rate was evident. The study comprised data from the periods 1972-77 and 1978-82. The calculated rates were 88-83/1000 and 16-14/1000 for the 2 periods in the general and private hospitals, respectively. The marked differences in the recorded rates could be attributed to: differences in socioeconomic standards among patients; lack of antenatal monitoring in general hospital patients; delayed referral of patients in labor to the general hospital, with the subsequent consequences of obstructed labor, intrauterine fetal death, etc.; early detection and management of high risk pregnancy in private practice; and private patients being highly selective in contrast to the general hospital patient. These general hospital patients formed a pool for all cases referred as emergencies and most were seen for the 1st time when attended for delivery. This study emphasized the great need for associating antenatal care with perinatal care in the same general practice setting.

Title: *Reflections on recent levels and trends of fertility and mortality in Egypt.* Cairo, Egypt, Cairo Demographic Centre, 1984. 34 p. (CDC Working Paper no. 9)

Author(s) Bucht B; el-Badry MA

Abstract This study addresses the question of the extent to which demographic structural factors in Egypt could have influenced the trends in the crude birthrate during the past 2 decades. These factors include past and current trends in mortality and fertility and their impact on the age structure of the population. Out-migration most likely also had some impact, at least on the annual number of registered births and on the estimated total population, but it is difficult to make an assessment of the impact of this variable due to the

scarcity of information of the size and structure of migrants from Egypt. Studying the impact of structural factors call for knowledge of trends in mortality, fertility, and age structure for some time prior to the period of immediate concern here, which is somewhat arbitrarily defined as 1962-81. This is a 20 year period starting 2 years before the onset of fertility decline in 1964 and ending 2 years after the termination of the fertility increase in 1979. As estimates of mortality and fertility levels prior to 1962 still had to be made, mainly in order to simulate the effects of past demographic trends on the 1962 age distribution, it was necessary to deal with a wider scope than originally intended. The general approach was to adopt a stable population model for 1927 consistent with the estimated levels of infant mortality and crude birth and death rates. This model was adjusted to take into account the relative sizes of the 2 cohorts. In projecting the stable population forward, 2 different levels of South model life tables were adopted for each 5-year period, 1 level for mortality up to age 5 corresponding to the infant mortality rates estimated and another for mortality in ages 5 and above chosen so that the crude death rate for the total population would be the same as the revised minimal crude death rates shown. The results of the simulation were consistent with the censuses of 1927, 1947, and 1960. They also showed a higher percentage under 15 in 1962 than in 1960 caused by an increase in the crude birthrate in 1961 accompanied by a decline in the death rate. The age-sex structure reached for 1962 was converted into frequencies using an estimate of the total population in that year derived from the 1960 census total population and a rate of growth of 2.5%, which is the intercensal rate of growth between the 1960 census and the 1966 sample census. The base population of 1962 distributed by sex and age was then projected forward using the mortality estimates previously discussed. Evidence provided by the analysis shows once more the hazard involved in relying on the crude birthrate as an indicator of fertility trends. There is convincing evidence that both the decline of the birthrate in the 1960s and early 1970s and the subsequent increases were substantially influenced by structure factors, namely earlier changes in fertility and mortality.

Title: *Studies in African and Asian demography:* CDC annual seminar, 1982. Cairo, Egypt, Cairo Demographic Centre, 1983. x, 765 p. (CDC Research Monograph Series no. 11)

Author(s) Cairo Demographic Centre

Abstract These are the proceedings of the 1982 annual seminar held at the Cairo Demographic Centre. The 23 papers are divided into six sections dealing with general issues, factors influencing fertility and mortality in Egypt, studies in African demography, socio-demographic patterns of residence in metropolitan Cairo, studies in Asian demography, and recent levels and patterns of fertility and mortality in China.

Title: *Regional differences in infant mortality in Egypt.* In: Studies in African and

Asian demography: CDC annual seminar, 1982. Cairo, Egypt, Cairo Demographic Centre, 1983. :179-213. (CDC Research Monograph Series no. 11)

Author(s) Ibrahim MM

Abstract This study [is] concerned with measuring...regional differences in infant mortality in Egypt, more specifically the differences between the two main regions, Lower and Upper Egypt, and within each region between the rural and urban areas of each governorate. Various estimates by type of residence (rural-urban) were obtained by applying Trussell's modified equations of the Brass technique, and the South Model Life Table." Results indicate that the lowest levels of infant mortality are found in the north coastal governorates, urban rates are generally lower than rural ones, and infant mortality rates follow the general development pattern. The influence of socioeconomic conditions on infant mortality is emphasized.

Title: *Infant and adult mortality in Egypt: 1947-1980.* Egyptian Population and Family Planning Review. 1983 Jun; 17(1):24-43.

Author(s) Rashad HM

Abstract Three large studies were performed to assess recent data on infant and adult mortality in Egypt. This paper discusses some apparent inconsistencies in the Egyptian data, identifies the various sources of data and methods of analysis utilized in the studies, and highlights the main findings concerning mortality trends in 1947-80. The studies were based on national censuses as well as smaller sample surveys. The data suggest a decline in infant mortality rates between 1947-60 from 203.6 to 147.2 in Lower Egypt and from 259.0 to 225.0 in Upper Egypt. By 1975-76, the infant mortality rate had fallen to 98.6 in Lower Egypt and 144.9 in Upper Egypt. The estimated rates indicate higher rural than urban mortality and rates for Upper Egypt that are comparable to those in lower Egypt 15 years earlier. The rates for Lower Egypt are slightly lower than those for Cairo. In the period under study, the registration rate in Egypt improved from about 66% to 75% (over 80% in Lower and urban governorates and 68% in the Upper region). 1976 census data suggest higher male than female infant mortality, but other data do not support this observation. It is possible that female mortality was higher in earlier time periods, but this excess mortality is now vanishing. All 3 studies demonstrate that adult male mortality registration is currently complete in Egypt. There is disagreement, however, as to whether female registration is complete.

Title: *The estimation of recent trends in fertility and mortality in Egypt.* Washington, D.C., National Academy Press, 1982. 144 p. (National Academy of Sciences. Committee on Population and Demography; Report No 9)

Author(s) National Research Council. Committee on Population and Demography. Panel on Egypt

Abstract Fertility and mortality trends are estimated using Egypt's unusually rich demographic data which allow for the construction of birth and death measures/estimates after correcting for errors. Estimated birth rate for 1979 (on the untestable assumption that birth underregistration continued as the same level as for previous years) was 44/1000. Fertility and mortality levels vary among the 3 major regions, e.g., Cairo and Alexandria, Lower Egypt, and Upper Egypt. During 1976-79, infant mortality had declined by 40% or more in all regions. The rate for Upper Egypt (145) was almost half as great as in Lower Egypt (99) and a third higher than in Cairo and Alexandria. Lower Egypt has had the greatest gains in infant mortality since World War 2. In the same period, crude birth rate ranged from about 32 in Cairo and Alexandria to about 45 in rural Upper Egypt. Total fertility rate was 5.5, down from 6.5 in 1937. General fertility rate was 200 in 1936-37, declining to 167 in 1975-76. Index of overall fertility (ratio of number of births of a population to the theoretical maximum number of children that could be produced) was just over .50 before and after World War 2, and slightly higher in 1959-60 with some regional variation. Index of marital fertility (ratio of number of births of married women to maximum number of children that married women might have if subject to the maximal fertility rates at each age) was .68 in 1936-37, down to .67 in 1975-76. These more refined fertility measures for Egypt as a whole suggest a fertility rise in 1960 of 6-8% over 1947 levels. Fertility increase between 1947-60 was due to slight increases in proportion married and in marital fertility. Between 1960 and 1976, the proportion of single women substantially increased, from 75-83% in the 15-19 age group and from 23-39% in the 20-24 age group. Singulate mean age at marriage increased by 1.4 years over the period 1960-76. Declines in the frequency of 1st marriages in the 1960's may have led to the drop in the birth rate in the early 1970's. Overall fertility declined in Egypt by 18% between 1960-76 because of later marriage and a small decrease in marital fertility. The declines began sooner and were larger in metropolitan areas. These results are supported by independent measures of the effects of voluntary control of marital fertility in the major regions of Egypt.

Title: *A study of infant and early childhood mortality in Egypt.* In: Mortality trends and differentials in some African and Asian countries. Cairo, Egypt, Cairo Demographic Centre, 1982. :559-92. (Cairo Demographic Centre Research Monograph Series, No. 8.)

Author(s) Sidky F; Eid IM; Soliman MN

Abstract The Egyptian crude birth rate declined during the period 1950-1972 to 36/1000 for urban and 21.7/1000 for rural areas due to many factors. The crude death rate declined 31.2% in 24 years from 1948-1971. The decline was greater for

males (35.2%) than for females (25.8%). The infant mortality rate is 30% of all deaths, compared to 6% and 3% in the US and the UK. Improvements in and health conditions will lead to even greater declines in infant mortality. Contrary to expectations, infant and childhood death rates for females in Egypt are higher than those for males. Diarrhea is the leading cause of death at infancy and early childhood, and respiratory diseases come second. To reduce the infant and childhood deaths, progress in improving health conditions is required, such as: 1) programs to raise the standard of living, medical care, and sanitation; 2) improved maternal and child health care; and 3) A systematic analysis of child deaths to improve data quality. Underregistration is evident both in urban and rural areas of Egypt, and infant and child mortality data need improvement.

Title: *Female infant in Egypt: mortality and childcare.* Population Sciences. 1981;(2):25-39

Author(s) Ahmed W; Beheiri F; el-Drini H; Manala-o D; Bulbul A

Abstract An analysis of female infant mortality in Egypt is presented. It is noted that female infant mortality is considerably higher than male infant mortality and that about one-third of female deaths can be attributed to a sex-specific cause. The authors attempt to discover whether this differential mortality pattern is primarily due to nutritional, medical care, or psychological factors. They conclude that malnutrition of female infants is the primary cause.

Title: *Analytical study on fertility and mortality tendencies in Egypt during the period 1950-1980.* Population Studies. 1981 Oct-Dec ;(59):3-8. Summary of Arabic text

Author(s) El-Nomrosi MM

Abstract This paper examined the tendencies in fertility and mortality in Egypt between 1950 to 1980. Using 200 data sets, an attempt was made to establish a relation between the birth rate and population distribution in these 3 age groups: 0-14 years, 15-49, and 50 years and older. As Egypt is considered a developing community, population activities are to control fertility and early mortality. Sex ratio is included to estimate the percentage of females of childbearing age when this figure is unavailable. In less developed communities, there is a higher male: female ratio. Mortality is higher among males than among females for all age groups. Females are more numerous for the age group 45-60. Males are more numerous in the 15-49 age group. Vital registration became regulated by law in 1912 and from 1977 onwards, weekly publications on mortality due to infectious diseases were issued. There was a gradual decrease in fertility over the period 1930-1979 which reached its minimum level in 1972 and then began to increase. Women in the 20-34 age group gave birth to 70.6% of the total births. Mothers under age 20 contribute negligibly (3.5%) to the total fertility rate. Thus raising the minimal age at marriage is not

necessary. Birthrates during the 1953-60 period were higher in November, December, and January and were at their minimum in May-July. There was a connection found between birth rate and infant mortality rates. This information is depicted in tabular form. General mortality rates went from 43.9/1000 in 1935-39 to 10/1000 in 1980. Infant mortality also dropped from 220/1000 in 1917-19 to 87/1000 in 1976. Unexpectedly, reported figures show that birth, death, and infant mortality rates were higher in urban than in rural areas. The major causes of child mortality in Egypt are: gastroenteritis, chest infection, and congenital anomalies. May-August is the peak time for child mortality.

Title: *Pregnancy wastage*. Population Sciences. 1981;(2):57-69

Author(s) Serour G; Younis N; Hefnawi F; Daghistani H; El-Bahy M; Nawara M; Abdel-Razak S

Abstract This study of early and late pregnancy wastage performed at 3 Egyptian teaching hospitals to assess the magnitude of the problem, detect its causes and recommend measures that will eliminate such causes and reduce pregnancy wastage. As defined here, pregnancy wastage includes abortion and perinatal mortality. In Egypt early pregnancy wastage varies between 23.8%-36.57%, and late pregnancy wastage between 15.3%-88%. The results of these studies show that spontaneous abortion is high among low socio-economic class and high parity groups. The incidence of spontaneous abortion is found to vary with wife's education, husband's education, wife's age, age at marriage, parity and order of living children. The perinatal mortality rate (PNMR) showed variation with socioeconomic factors, biomedical factors, primary antenatal condition of expectant mothers and manpower training. Results indicate a high PNMR among mothers who were not booked at a hospital and only came to the hospital for the 1st time in labor, among those patients in labor who were referred to the hospital by traditional birth attendants, as opposed to a general practitioner, and among non-paying patients. Moreover, the PNMR was high for non-educated mothers and for those who had never received any antenatal care. The highest PNMR was among those women who had received 8 or more antenatal visits as they represent the high risk patients. With respect to biomedical factors, the PNMR was found to vary with the maternal age groups, parity, outcome of the last pregnancy and gestational age. Additional contributing factors were pre-existing maternal diseases like anemia, toxemia of pregnancy, diabetes mellitus and antepartum hemorrhage. Finally, analysis of PNMR in this study shows that PNMR varies with the degree of skill of the birth attendant and his/her awareness of the problem of PNMR and the hospital's recording system. The analysis of perinatal mortality cases revealed that most of the underlying causes are preventable. The analysis also showed that 45% of the cases occurred in the antepartum period, 30% in the intrapartum period and 25% in the postpartum period. The significant loss in the postpartum period is a strong reason for the obstetrician to work in close contact with the neonatologist to reduce the PNMR. The pregnancy wastage

rate in Egypt and other developing countries can be markedly reduced by bettering socioeconomic standards, promoting the use of effective contraception, improving health services, health education obstetric practice, and manpower training, and by establishing neonatal units and a proper recording system.

Title: *Infant mortality, the birth rate, and development in Egypt.* Egypte Contemporaine. 1980 Jul; 71(381):213-65.

Author(s) Field JO; Ropes G

Abstract This paper is a product of the Massachusetts Institute of Technology-Cairo University Health Care Delivery Systems Project which has examined the delivery of health services in Egypt in relation to malnutrition, early childhood mortality, and fertility. Egypt's economic progress since the 1952 Revolution has had only limited effect on high mortality among preschool children, infants and a high rate of population growth. This paper uses governorate data and simple analytical methods. 10% of Egyptian children die in the 1st year of life; subsequent mortality is also extensive in the preschool age children. The crude birthrate remains in the high 30s and overall population growth continues unabated. Early childhood mortality reflects the interplay of malnutrition and infection and population growth is caused by the fact that children, especially males, are considered economic assets. High fertility is a reflection of high mortality to a significant degree. 4 dimensions of development in Egypt are: 1) an urban cluster, 2) poverty, 3) the incidence of women in the paid labor force, 4) development in the rural sector, and 5) population density. Agricultural income increases as women enter the paid labor force and agricultural productivity is weakly related to the practice of women working for pay. Infant mortality in Egypt varies with and is most influenced by population pressures on the land, including urban crowdedness and by the proportion of households living below the poverty line. Female employment adds to family income and affects infant mortality indirectly. Policy implications are: 1) the government must deal with the density factor, 2) it must pursue a development strategy that stimulates productivity and raises the resource base of society, and 3) the government must address infant mortality along with malnutrition and morbidity. The author concludes that: 1) variation in the birth rate is less than variation in the infant mortality rate, 2) mortality and fertility are responsive to different social and environmental influences, 3) the birth rate is unaffected by much that qualifies as development, and 4) the effects of socioeconomic change on fertility appear to be conditioned by residential context.

Title: *Childhood mortality in relation to fertility behavior and attitude.* Population Sciences, No. 1, 1979. p. 27-43.

Author(s) MUSTAFA, AF; SARHAN, A. E; ATTIA, Y. S.

Abstract Research was conducted into the relationship between fertility attitudes and

behavior and childhood mortality in Egypt. Tabulated information is presented on selected characteristics of the random sample of 2463 wives used for the study. Information on knowledge, attitude, and practice of contraception among the sampling, categorized according to rural and urban populations, is presented. Comparisons of various characteristics were made between women who had experienced childhood mortality and those who had not. Women who had experienced child loss were found to be less likely to use contraceptives than those who had not, regardless of socioeconomic status. Contraceptive practice was higher among higher socioeconomic groups but this is due to the fact that child mortality is higher among lower socioeconomic groups. Both the proportion using contraception and the duration of use were higher among urban than among rural groups. Editorial questions regarding the study conclusions are raised. The study results answer some of these questions.

1.1.4 Migration

Title: *The economic and demographic determinants of international migration in rural Egypt.* JOURNAL OF DEVELOPMENT STUDIES. 1993 Oct;30(1):146-67.

Author(s) Adams, R. H.

Abstract This study uses data collected in rural Egypt to estimate a micro-level model of the economic and demographic determinants of international migration. This model uses predicted income functions to establish origin incomes (incomes excluding remittances). Three findings are noteworthy. First, the results suggest that education may not necessarily be positively correlated with migration. Second, the data indicate that the relationship between income and migration is that of a flat, inverted U-shaped curve. Third, when the combined effects of income and land are considered, males from poor and landless households have the highest propensity to migrate. Poverty and landlessness combine to push rural Egyptians to work abroad." (EXCERPT)

Title: *Dynamics of land, labor, and migration in rural society: some comparative case studies.* In: Aspects of population change and development in some African and Asian countries. Cairo, Egypt, Cairo Demographic Centre, 1984. :107-36. CDC Research Monograph Series no. 9

Author(s) Duza, M. B; Sivamurthy, M; Seetharam, K. S.

Abstract This paper, based on case studies conducted in 1977 in Bangladesh, Egypt, Jordan, and Sudan, analyzes the relationships among land, labor, and migration in rural communities. Of particular interest was the identification of land distribution patterns, labor force patterns, and the response of the rural population to existing conditions in terms of migration and employment

patterns. The 4 countries analyzed share the features characteristic of low levels of economic development and social modernization, although Egypt and Jordan are better off in terms of overall life conditions. Except in Sudan, where land acquisition is through community distribution, the distribution of land was highly skewed, with high levels of landlessness. In Jordan, for example, 2/3 of total land is owned by 1/10 of the population. Female labor force participation rates were extremely low in all communities surveyed; however, widespread participation of both old people and children was noted. Virtually the entire working population in Sudan and Bangladesh is engaged in farm work, with few out-of-village employment opportunities available. On the other hand, only 1/6 of the Jordanian population is engaged in agriculture and 3/4 work outside their villages. Egypt falls in between these 2 extremes, with 1/2 of the population involved in agriculture and 1/3 in jobs outside the village. In Egypt and Bangladesh, significant proportions of farm workers are engaged in nonfamily farms. All these patterns have led to both seasonal migration in search of better employment opportunities or permanent outmigration, especially from Egypt and Sudan. In these 2 cases, the majority of migration is directed at urban centers. Overall, the findings of this study suggest that the area of population dynamics and rural development merits serious attention.

Title: *Household characteristics and rural out-migration in Upper Egypt.* In: Studies in African and Asian demography: CDC annual seminar, 1983. Cairo, Egypt, Cairo Demographic Centre, 1984. :287-303. CDC Research Monograph Series no. 12

Author(s) Farghali F

Abstract The aim in this paper is to determine the relationship between certain household characteristics and out-migration in rural villages of Upper Egypt. The report concentrates on the village of Madmar using data from the 1976 census and additional information from the 1977 Cairo Demographic Centre survey of rural households. Of the variables considered, number of family nuclei and age, sex, marital status, and occupation of the household head are shown to have a significant correlation with out-migration. A surprising result is that shortage of agricultural land does not appear to be a motivating factor.

Title: *Peasant migration from an Egyptian village to the oil producing countries: its causes and consequences.*

Author(s) Mohieddin, M. M.

Abstract This dissertation is based on extensive fieldwork and survey research in a village in Upper Egypt. It attempts to investigate the causes and consequences of peasant migration to the Arab oil producing countries on the sending community....It examines the role of national and international determinants of migration as well as individual, household, and village level variables in generating migration....Four issues that are related to emigration are

thoroughly examined: remittances and their use, the village labor market and labor shortage, the land market in the village and attitudes toward women." This work was prepared as a doctoral dissertation at the University of North Carolina at Chapel Hill. (EXCERPT)

Title: *Interrelationships between internal and international migration in Egypt: a pilot study.* Development Research Centre (DRC) on Migration, Globalization and Poverty, University of Sussex , 2005

Author(s) Zohry, A.

Abstract This study explores the interrelationships between internal and international migration in Egypt. It is guided by the following questions: Do different categories of people engage in internal as opposed to international migration? Do migrants initially migrate internally before going abroad, or is the sequence the other way round? Are internal and international migration simultaneously deployed within the same family/household by different members? What are

the effects and impacts of the two kinds of migration? The main findings include: rural to urban migration has increased as landless farm laborers; the relatively better-off laborers can afford a bus ticket to Libya where work in the informal sector is the same as working in Cairo or Alexandria; the third alternative for the jobless is to work in Jordan, but they need to afford a work contract; with respect to the sequence of migration, the literature and fieldwork indicates that international migration is an alternative to internal migration; Egyptians migrate internally and externally without a logical order or a common pattern; internal and international migration are simultaneously deployed within the same family/household in Egypt; Egyptian internal and international migration – especially to Libya and Jordan – should be regarded as a sort of survival migration rather than migration for development. Egypt Popul Fam Plann Rev. 1993 Dec;27(2):102-23

Title: *Socio-economic and urbanization profiles of internal migration in Egypt: a canonical correlation analysis.*

Author(s) El-Rouby M. G.

Abstract "Data on in- and out-migration in Egypt by governorate and on variables believed to interact with migration are examined. The purpose is to identify the dimensions through which the basic demographic phenomenon can be rationally structured. This objective is approached through a general multivariate analysis technique known as canonical correlation analysis....A number of variables believed to act as determinants of migration are used and arbitrarily classified into four groups to represent four distinct migration profiles, namely, socio-demographic, economic, urbanization, and health profiles....The analysis shows that the economic profile of migration is the most pronounced one of the four profiles examined."

Title: *The political economy of migration in Egypt: 1974-1975.* Population Council Regional Papers: West Asia and North Africa, No. 36, May 1990. 65 pp. Population Council: Cairo, Egypt.

Author(s) Said, Mohamed El S.

Abstract "The aim of this paper is to determine the significance of emigration policy in Egypt from a political economy point of view....Our argument...is that in the case of organismic equilibrium, the attempt at transformation by arbitrary dismantling of a certain set of controls, as happened in the case of Egypt, caused severe institutional distortions that damaged the fabric of the society. Under these circumstances the failure of liberalization was inevitable. We will argue our case in the following way: a) by showing the nature of this special situation which we characterized as organismic equilibrium; b) by characterizing the model of liberal transformation in Egypt as applied by the Sadatist elite; c) by demonstrating how emigration policy was devised as a way out of the contradictions of this model; and d) by stating the main purposes of emigration policy, as formulated and applied since 1974."

Title: *OUT OF EGYPT: Globalization, Marginalization and illegal Muslim Migration to the EU.* UCLA International Institute; UCLA Center for European and Eurasian Studies (University of California, Los Angeles) Occasional Lecture Series. No. 5, 2005.

Author(s) Talani, L. S.

Abstract The main objective of this paper is to study the impact of globalization on migratory flows, with a particular attention to the dynamics of migration from the MENA area, especially Egypt. The theoretical aim of the paper is, first, to understand the problem of migration, both legal and illegal, in the context of globalization; and, second, to assess the relation between globalization, regionalization and the EU response to threats of mass immigration from less developed countries. The empirical analysis is based on the results of a survey (110 questionnaires) carried out by the author in Cairo on motivations for migration at the point of origin. The paper argues that the case of Egypt is one in which the lack of regionalization and the progressive marginalization of the region and, in particular, of the country under analysis, do explain the increase in permanent migration to more developed countries.

Title: *Patterns and Determinants of Internal Migration in the Arab Countries: The Case of Egypt.* Cairo. ERF Working Papers, NO. 33, 1999.

Author(s) Khalid I. Aldakhil

Abstract: The main objective of this study is to analyze and test the patterns and determinants of inter-governorate migration flows in Egypt by direction of

move. Four directional moves of internal migration have been distinguished and employed in the study. Data analysis shows that the highest migration occurs between urban areas followed by rural to urban areas, whereas the lowest occurs between rural areas of different governorates. The empirical results indicate that distance is one of the most important variables in explaining the spatial distribution of migrants in Egypt. Distance elasticity differs from one directional move to another. The results suggest that low-income levels in Egyptian rural governorates tend to encourage people to move toward high-income governorates. Also, the results indicate that migration to rural governorates is more responsive to destination education than urban governorates. The employment rate variable is found to be a major determinant of the individual's decision to migrate in Egypt. Higher rates of origin unemployment tend to encourage migration from rural to urban areas, and higher rates of destination unemployment tend to discourage migration to rural and urban areas. Migration to urban areas is more responsive to unemployment than migration to rural areas.

Availability: Soft and Hard Copies.

Title *"The Impact of Migrant Remittances on Development in Some Mediterranean Countries"*. Paper presented at the workshop on "Population Challenges in the Middle East & North Africa: Towards the Twenty First Century" Semiramis Intercontinental Hotel, Cairo, 2-4 November, 1998. Economic Research Forum for the Arab Countries, Iran and Turkey.
Availability: Downloadable from ERF

Author(s) Nicholas Glytsos.

Abstract This is a quantitative analysis of the effects of migrant remittances as an element of demand on the economies of Algeria, Egypt, Greece, Jordan, Morocco, Portugal, Syria and Tunisia. A demand oriented dynamic econometric model of simultaneous equations with consumption, investment, imports and output as endogenous variables is applied individually to each country, using annual aggregate data for the period 1969-1993. The model determines the short- and long-run effects of exogenous shocks of remittances on these variables. The countries involved demonstrate a remarkably uniform structural performance, of a rather unstable situation, with vast temporal and inter-country positive and negative fluctuations of remittance effects.

Title: *"Big Cities and Migration"*. Paper presented at the workshop on "Population Challenges in the Middle East & North Africa: Towards the Twenty First Century" Semiramis Intercontinental Hotel, Cairo, 2-4 November, 1998. Economic Research Forum for the Arab Countries, Iran and Turkey.
Availability: Downloadable from ERF

Author(s) Barry Mc Cormick & Jackline Wahba

Abstract The rapid pace of urbanization in developing countries, and especially the growth of very large cities, is a source of considerable concern for policy makers and increasingly a topic for economic analysis. The literature on developing countries migration and urbanization is enormous and growing, with most empirical studies focusing on rural-urban and inter-regional migration. This paper examines the role of large cities in economic development by focusing on the pattern of migration to and from the three largest cities in Egypt. Three hypotheses concerning migration flows to and from mega - cities are examined: 1) Large cities drain other urban areas of educated workers; 2) Large cities attract young persons from other areas and repel older individuals; 3) Distance has a different role in rural migration to a mega - city to that of rural migration to other urban areas. Evidence from Egypt is used to test these hypotheses.

Title *Will Nationals and Asians Replace Arab Workers in the GCC?* Cairo: ECES WP No. 74. November 2002.

Author(s) Maurice Girgis

Abstract: This paper starts by reviewing the population and labor migration record of the GCC. It then outlines four scenarios concerning the prospects of Arab worker migration to the region, and examines the factors that will shape the direction of the migration trends in the near to medium runs. It concludes that slow Arab out-migration over the next five years is the most probable scenario and is likely to displace 485,400 Arab workers in the GCC countries.

Finally, the paper points out that unless major strides are made to invigorate economic growth and introduce major macroeconomic and labor market reforms, neighboring Arab countries are well-advised to anticipate fewer remittances, more workers returning home and possibly increasing unemployment rates.

1.1.5 Population Policies

Title: *Egypt. Policies, programs, and financing since the International Conference on Population and Development.* In: Promoting reproductive health: investing in health for development, edited by Shepard Forman and Romita Ghosh. Boulder, Colorado, Lynne Rienner Publishers, 2000. :49-78. (Center on International Cooperation Studies in Multilateralism)

Author(s) Khattab, H. A; El-Fattal, L; Shorbagi, N. K.

Abstract The 1994 International Conference on Population and Development (ICPD)

offered a new international understanding of population policies and programs. Rather than focus exclusively on population growth and family planning and their social and economic impact on national development, the ICPD paradigm emphasized the reproductive health and well-being of individual men and women. The main objective of this study is to examine the impact of the ICPD on ideologies that are shaping health and population policies in Egypt. It reviews the ICPD agenda and evaluates its appropriateness, viability, and sustainability in Egypt. It then analyzes national and international projects, programs and policies in Egypt with specific focus on financial sources and funding mechanisms. Finally, some recommendations for effective ICPD policy implementation are suggested. The documents examined include government reports in demography, health structure and infrastructure, policy and government budget reports as well as studies in reproductive health interventions and reproductive health rights and nongovernmental organization and donor reports.

Title: *An introductory note on population policies and inequality with emphasis on Egypt.* In: Studies in African and Asian Demography: CDC Annual Seminar, 1987. Cairo, Egypt, Cairo Demographic Centre, 1988. :317-46. (CDC Research Monograph Series No. 17)

Author(s) Nassar, H.

Abstract Population policies in Egypt and their effect on both social inequality and fertility are examined using a variety of official and other published data. Inequality is defined by the author as unequal access to education, health, public services, and employment opportunities. Data are provided in tabular form concerning mean number of children ever born among married Egyptian women by socioeconomic characteristics and place of residence, per capita public expenditure on population programs for selected countries, quality of life indexes, female school enrollment, industrial investment, population distribution, and public and private housing for governorates of Egypt.

Title: *Population policy in Egypt.* [Unpublished] 1984. iv, 50 p. Report prepared during the period July 10-15, 1983, Oct. 20-30, 1983, Dec. 9-22, 1983 supported by the U.S. Agency for International Development (ADSS) AID/DSPE-C-0053. (Authorization: Ltr. AID/NE/TECH/POP: 3/7/84) (Assgn. No. 582215) On cover; American Public Health Association, International Health programs

Author(s) Simmons GB

Abstract The series of visits described in this report had the purpose of furthering the development of a proposal for a population policy program to be undertaken by the Population and Family Planning Board on behalf of the Government of Egypt with funding from USAID, Cairo and from the UNFPA. The 3 visits were used to conduct a series of discussions concerning the project with the

staff of the PFPB, relevant ministries and other groups in Egypt and with the donor agencies. The consultant recommends that all possible efforts be made to introduce as strong a program in the area of population policy as is consistent with Government of Egypt priorities and with funding available for international donor agencies. A strong policy is a key to an effective program, and strengthening activities in the general area of policy will do much to help reduce the level of fertility in Egypt and to assist the country in the attainment of many of its other development objectives. The appendix is a detailed proposal for a population policy program for Egypt

1.2 Employment, Labor Force and Economic Structure

Title *The Egyptian Labor Market in an Era of Reform*, Cairo, The American University in Cairo.

Author(s) Assad, R.(Ed). (2002).

Abstract: In 1991, the Egyptian government initiated a major Economic Reform and Structural Adjustment Program (ERSAP). This included a stabilization component to eliminate fiscal and external imbalances, a reform agenda for the trade and financial sectors and the exchange rate regime, and an ambitious privatization program. Until recently, however, little was known about the impact of this program on employment and earnings in the Egyptian labor market. This collection of articles based on a recent large-scale household survey carried out in 1998 and an earlier comparable survey carried out in 1988 documents the changes that occurred in the Egyptian labor market over this ten-year period. The various authors investigate changes in the supply and demand for labor, including the extent to which the private sector has contributed to employment creation, and the groups that have benefited from employment growth. Trends in labor earnings and wages, in women's and youth employment, and in child labor and schooling are analyzed and the role of the informal sector in employment creation is explored, as well as the extent to which the labor market itself has become more informal over the period.

Title *Labor Market Competitiveness and Flexibility in Egypt*. Cairo: Center for Economic and Financial Research and Studies. Faculty of Economics and Political Sciences. Cairo University. August, 2001

Author(s) Naglaa El-Ehwany and Manal Metwally

Abstract: The purpose of this paper is to analyze the structure and performance of the labor market in Egypt, in order to assess its competitiveness. The paper also considers issues related to labor market flexibility and labor market reforms.

The study found that the labor market has been increasingly suffering from many distortions and disequilibria during the last two decades that affected its competitiveness. The study indicated that the collective impact of the legislative and institutional rules that control the labor market on the private sector profitability and hence, on job creation was minor. The paper concluded that the challenge of job creation could only be met through adopting a comprehensive strategy which aims at achieving a high labor intensive rate of growth, hand in hand with raising labor productivity and competitiveness.

Title *Egypt Country Profile: The Road Ahead for Egypt.* Cairo: Economic Research Forum. (2004).

Author(s) Economic Research Forum

Abstract: This report is a definitive statement on the state of the Egyptian economy. It provides a very clear picture of the performance of the Egyptian economy. The report objective is to monitor the economic transition in Egypt in a way that could assist the policy makers in designing their reform efforts. Based on state of the art methodologies of economic analysis and combining quantitative and qualitative data to assess the economic performance, the report suggests alternative trajectories and policy prescriptions for economically and socially sustainable growth. The profile covers five thematic areas addressing in an empirical and analytical manner including macro-economic and fiscal issues; financial issues; trade issues; governance and social institutions issues; and labor and human resource development issues. The report argues that the monetary, fiscal, and financial policies that were applied since 1991 enhanced macro-economic performance in Egypt, and stresses the need to implement structural and institutional changes must be implemented with particular focus on removing barriers to domestic and foreign investment and supporting small as well as medium and large enterprises; giving priority to social spending in education and health services, emphasizing quality and labor market requirements; and speeding up the pace of reforms without exaggerating their social implications and their expected outcomes on the poor.

Title *The 1998 Egypt Labor Market Survey Dataset.* (1998).

Author(s) Economic Research Forum

Abstract: The scarcity of official data on the Egyptian labor market has for many years hindered research in this area with the result that little is known about the evolution of labor force participation, employment and unemployment in Egypt. Not only is the scarcity of official data a hindrance but its unavailability to researchers in the form of micro data is an obstacle to the kind of multivariate analysis now deemed necessary in any study of the labor market. To address this severe lack in recent data, ERF now stands ready to

disseminate the micro data from its 1998 Egypt Labor Market Survey.

The Egypt Labor Market Survey 1998 (ELMS 98) was carried out by ERF in 1998 with the cooperation of the Egyptian Central Agency for Public Mobilization and Statistics (CAPMAS). The survey is a nationally representative in-depth labor market survey of 5000 households that was designed to be comparable to a similar survey, the October 1988 Labor Force Sample Survey (LFSS 88), carried out as a special round of the LFSS. The ELMS 98 was carried out 10 years to the day after the LFSS 88 using a similar sample and questionnaire design and taking the utmost care in ensuring comparability across this ten year period.

The survey instrument consisted of three questionnaires: (1) a household questionnaire; (2) an individual questionnaire; and (3) a family enterprises questionnaire. The household survey which was administered to the head of the household includes a roster of members of the household, each individual's relationship to the head of the household, demographic characteristics of the household, access to public services, availability of durable goods and sources of income other than work. The individual questionnaire applies to all household members six years old and above. It includes modules on parents' characteristics, education, detection of work during the reference week, unemployment, characteristics of employment during the reference three months, mobility and career history, and earnings from work for wage workers. Data for this questionnaire was collected from the individual him/herself. The family enterprise questionnaire applies to any activity carried out by employers or self-employed household members. Data for this questionnaire was collected from the individual responsible for the enterprise.

The final data includes 4,816 completed household questionnaires containing 23,997 individuals of all ages; 20,930 individuals aged six years and above; and 1,614 family enterprises. The data set contains 22 files corresponding to the various parts of the questionnaires with a unique ID identifying the households, individuals within the households and their different projects.

The Dataset is now available at ERF databank. For further information, please contact: Ms. Yasmine Fahim, Librarian e-mail: yfahim@erf.org.eg

Title *Why did economic liberalization lead to feminization of the labor force in Morocco and de-feminization in Egypt?* Center of Arab Women for Training and Research (CAWTAR), 2004

Author(s) Assaad, R.

Abstract: The purpose of this paper is to explain the different trajectories followed by Egypt and Morocco with regards to feminization of the labor force. While both have experienced significant informalization of their labor markets,

Morocco has undergone noteworthy feminization of its work force, while Egypt (excepting the civil service) has largely de-feminized.

This paper explores the different economic trajectories of the two countries in terms of the change of the sectoral composition of employment, and how the female share in each sector have changed over time. It also explores the differences in institutional arrangements and macroeconomic conditions that encouraged feminization (or de-feminization) in each country, with particular examination of hypotheses concerning how the structure of foreign exchange revenues has affected household labor decisions and the demand for female labor.

The results of the paper show the following:

- the employment prospects for women are much brighter in Morocco than in Egypt
- not only does non-governmental wage employment in Morocco have a higher female share than in Egypt, it is also feminizing significantly over time as compared to Egypt's which is de-feminizing
- Morocco became less and less reliant on phosphates exports and more reliant on manufactured exports and tourism revenues; two industries that feminized significantly over time in Morocco
- Egypt continued to rely on oil and remittances as major sources of foreign exchange, and employment in these industries became less rather than more feminized during this period
- contribution of manufactured exports to Egypt's foreign exchange earnings continued to be quite limited in the 1990s

Finally, it appears that employment in domestic services was becoming less socially acceptable over time in Egypt, but that it was increasing over time in Morocco. This can only explain a small part of the difference in feminization trends in the two countries. The bulk of the difference can be accounted for by the different trajectories of the textile and garments and service sectors in the two countries, both of which have been strongly affected by the way each country was incorporated in world trade.

Title: *"Female Labor Supply in Egypt"*. Paper presented at the workshop on "Population Challenges in the Middle East & North Africa: Towards the Twenty First Century" Semiramis Intercontinental Hotel, Cairo, 2-4 November, 1998. Economic Research Forum for the Arab Countries, Iran and Turkey.

Availability: Downloadable from ERF

Author(s) Ragui Assaad Fatma Al-Hamidi.

Abstract This paper investigates how female labor supply, both in terms of participation and hours of work, responds to wages and other individual characteristics. It

also examines how these determinants affect the type of labor participation, including wage work, non-wage work in agriculture and outside agriculture. Results indicate that predicted wages are important determinants of participation. The elasticity of labor supply (in terms of number of hours) with respect to wages is relatively high (0.39). Education is also an important determinant of participation as well as the type of employment a woman is likely to engage in. On the other hand, education has a negative effect on hours of work. The effect of age, marital status, and the number of children is much more constraining on the participation decision of wage workers than that of non-wage workers.

Title: *"Globalization and Unemployment in MENA"*. Paper presented at the workshop on "Population Challenges in the Middle East & North Africa: Towards the Twenty First Century" Semiramis Intercontinental Hotel, Cairo, 2-4 November, 1998. Economic Research Forum for the Arab Countries, Iran and Turkey.
Availability: Downloadable from ERF

Author(s) Jalaleddin Jalali & Farzaneh Roudi

Abstract The process of economic globalization is proceeding fast in terms of increased cross-border transactions in goods, services, and finance, but MENA economies have not participated much in this process. Both theory and empirical analyses indicate that globalization is conducive to faster growth of the aggregate income, yet some MENA policy makers remain hesitant about adopting policies that would enhance their economies' integration in the global economy. One of the main reasons is their concern about increased unemployment that may occur in the early stages of economic liberalization as a result of the downsizing or closure of inefficient firms. Concerns about unemployment are well placed given the fact that MENA has the highest unemployment rate of all geographical regions. Yet evidence indicates that in a stable macroeconomic environment, the net employment effect of liberalization policies is positive. On the other hand, high fertility rates will expand the region's labor force at an average annual rate of 2.7 percent a year in the next 15 years. Rough calculations indicate that the region's output will have to grow by at least 4 percent a year for the already high unemployment rates not to rise further. In light of the past performance, this would be unlikely on unchanged policies.

Title *Labor and the State in Egypt: Workers, Unions, and Economic Restructuring*. New York: Columbia University Press, 1997. 327 Pp.

Author(s) Posusney, Marsha Pripstein.

Abstract: Labor and the State in Egypt provides an important and perceptive insight into how workers' collective actions in Egypt shaped public policy. Beginning with the military's 1952 coup against the British-backed monarchy, this study

provides an interpretive analysis of workers' positions on economic issues with an institutional study of union behavior. The book analyzes the dual and sometimes overlapping roles of labor as a basis of support and legitimacy for Egypt's authoritarian regimes and also a platform for challenging government initiatives.

The author notes that from the standpoint of labor/state relations, the political economy of Egypt since 1952 can be divided into three historical periods, although the lines of demarcation between them are gradual rather than abrupt. The first begins with the coup and extends roughly through 1955. During this period, as Nasir individually was struggling to consolidate political power within a regime of military officers with conflicting ideological orientations, the government's central economic development strategy was to maintain and expand the existing foreign investment in the country. The repression of a labor movement that had been an active force in struggling against the British-backed monarchy was a cornerstone of this strategy. During this period the military outlawed strikes and indefinitely postponed plans by a core of union activists to found a national trade union confederation.

The second period, marked by a shift toward an autocratic development plan coincided with Nasir's undisputed hegemony. Relying first on private capital to stimulate growth, the regime moved in the late 1950s and early 1960s to claim ownership of the country's largest banks, insurance companies, utilities and industries. Other populist measures were enacted as workers came to be seen by the regime as the base of legitimacy for the government, and trade unions as an important vehicle for mobilizing their support as well as their efforts in production. The establishment of a confederation was now encouraged, with the understanding that its leaders would be screened for their loyalty to the regime.

The third period follows Sadat's ascension to power in May 1971 following a brief period of uncertainty after Nasir's death. The period is characterized by the country's shift in orientation from the East to the West. Sadat undertook a program of limited political and economic liberalization with Husni Mubarak essentially continuing these policies. As workers began to mobilize against these policies, the government's demands on union leaders changed; now they were expected to provide political support for the president and his party, and to forswear labor protest and preempt any independent actions by workers.

After an introductory chapter which provides an excellent overview of the role of labor in the political economy of Egypt after the 1952 coup, the remainder of the book is organized into five chapters which present the empirical support for the author's main arguments. Chapter 1 shows how the formation of the Egyptian Trade Union Federation was shaped by internal contradictions within both the labor movement and the new military regime.

It also traces the changes in the regime's economic strategies and their effect on workers, highlighting limitations in the government's capacity to implement its programs.

The internal dynamics of, and conflicts within, the trade union movements after confederation are the focus of chapter 2. This chapter shows how the union movement remained intertwined with, and dependent on, the state, and reveals the multiple forms of government intervention in union affairs. It also demonstrates that in spite of the continuity of corporatism, the latter was a consistent source of internal conflict within the labor movement. Finally, it illustrates how opportunism and ideological identities among unionists come into play in shaping these conflicts and outcomes.

Chapter 3 centers on rank-and-file struggles at individual plants and their impact on government policies. The timing and nature of these protests, as well as the demands raised during them, support the argument that workers' behavior is best explained by a moral economy perspective. By showing that these plant level protests occurred largely outside of the union structure, the study demonstrates how corporatism weakens the capacity of the formal workers' organizations at the local level.

The role played by union leaders in shaping national economic policy is the subject of chapter 4. It shows how the strength of union opposition to economic reform hinged on the degree to which the policies were perceived as violations of the moral economy, the number of workers simultaneously affected by the policy, and the ideological perspectives of the unionists. This combination led to defense of the public sector becoming the main focus of the union movement throughout the 1970s and 1980s. The chapter also provides evidence that regime concessions on reform initiatives appear linked to the strength and breadth of labor opposition.

Finally, chapter 5 traces the Mubarak regime's heightened efforts to undo e.statism in the 1990s. It reveals how the government's newfound commitment to a privatization program resulted from increasing pressures on the regime from its multilateral creditors, and in turn led to elevated government pressure on senior union personnel. This conflict between labor and the state crystallized around the proposed new labor law. Here the author explains how and why its removal of most of the protections for workers that were established during the Nasirist era, in exchange for granting a limited right to strike, is both exacerbating the tensions within the corporatist union structure and eroding the legitimacy of the Mubarak regime among workers.

Title *The Performance of State-Owned Enterprises and Newly Privatized Firms: Empirical Evidence from Egypt?* Paper presented to ERF Ninth Annual

Conference American University in Sharja, the United Arab Emirates 26-28th October 2002.

Author(s) Mohamed Omran

Abstract: Even though it is well documented that privatization leads to an improvement in the performance of state-owned enterprises (SOEs) following divestiture, it is argued that most existing literature do not consider the performance of control firms of similar pre-privatization situations, i.e. the performance of SOEs. In this study, I use accounting-based performance measures to evaluate the performance of newly privatized Egyptian firms against the performance of SOEs. I document significant increase in profitability and efficiency, and significant decline in leverage and employment, whereas output shows insignificant change following privatization. Matching sample firms (privatized) to control firms (SOEs), I document that privatized firms do not exhibit any significant improvement in their performance compared with SOEs, which questions the benefits of privatization in Egypt.

Title *Detecting the Performance Consequences of privatizing Egyptian State-Owned Enterprises: Does Ownership Structure Really Matter?* Paper presented to ERF's Eighth Annual Conference, Cairo: Egypt, January, 2002.

Author(s) Mohamed Omran

Abstract: The intention of this paper is to evaluate the financial and operating performance of the newly privatized Egyptian firms and to highlight whether such performance differs across firms according to their new ownership structure. The study covers 69 firms, which were privatized from 1994 to 1998. Even though the study follows the standard approach of Megginson, Nash and Randenborgh (1994), Boubakri and Cosset (1998), and D'Souza and Megginson (1999), I consider another dimension in testing and evaluating the changes in financial risk of privatized firms; I document significant improvements in profitability, operating efficiency, capital expenditure, and dividends. On the other hand, I find significant decreases in employment, leverage, and risk, whereas output shows an insignificant decrease following privatization. I then classify and analyze the 69 firms according to the privatization method of sale: majority, minority, employees' shareholder association (ESA), and anchor investors. My empirical results find that firms which were sold to ESA and anchor investors seem to outperform other types of privatization; in contrast, the minority type tends to perform less when compared with the other privatized firms.

Title *Demography, Capital Dependency and Growth in MENA.*

Author(s) Tarik M. Yousef

Abstract: Recent academic and policy discussions have emphasized the poor growth performance of MENA's economies since the mid 1980s. It has been argued that the expanding global economy presents MENA with the opportunity to

augment its limited pool of national savings with private capital inflows. However, MENA's dependence on the global economy to bridge its domestic resource gap has been driven by conditions internal to the region. This paper addresses a much neglected dynamic in MENA, demography. Using an international growth perspective, the paper demonstrates that demography conditioned MENA's growth performance over the period 1965-90. Whereas demography depressed domestic savings, retarded capital accumulation and constrained economic growth in the past, the dynamics of MENA's demography over the next 25 years predict an enhanced potential for mobilizing domestic resources for growth. This potential, however, requires appropriate fiscal, financial and institutional reforms and improvements to raise national savings and investment. Thus, economic policy, while facilitating integration into the global economy, should simultaneously focus on reducing its dependence on foreign capital, especially when international capital markets remain highly segmented and volatile.

Title *Explaining Informality: The Determinants of Compliance with Labor Market Regulations in Egypt.* Paper presented to the ERF Fourth Annual Conference, Beirut, September, 1997.

Author(s) Ragui Asaad

Abstract: The point of departure of this paper is a definition of informality as an attribute of transactions that are unregulated by the legal and bureaucratic institutions of society. This definition is operationalized in the analysis of labor market transactions by means of two indicators of compliance, namely (i) whether the employment transaction is governed by a legal employment contract and (ii) whether the worker is covered by social insurance. A simple theoretical model of firm compliance with labor regulations is presented and used to derive hypotheses about the characteristics of transactions that are more or less likely to conform to labor regulations. By means of multivariate analysis on data from the October 1988 round of the Egyptian Labor Force Sample Survey, I estimate the probability of complying with both or either of the regulations mentioned above as a function of firm characteristics, such as firm size, type of activity, and worker characteristics, such as sex, education, marital status, and occupation.

Title *Role of the state as a salient stakeholder in a transition economy: the case of Egypt.* *Journal of the Academy of Business and Economics*, April. 2004.

Author(s) Youssef, Samir M.

Abstract: Egypt, a developing country, is still going through a transition process from a socialist to a free market economy. With the declining role of centralized control, an institutional void was created. The various business stakeholders expected to fill in this gap are still in the process of formulation. The State continues to be in control of resources and is considered a major source of

values that have considerable impact on society. Its tremendous sources of power make it more salient than other stakeholders. This paper aims at identifying this role of the State and its impact on other stakeholders.

Title *Child Schooling and Child Labour: Evidence from Egypt,*

Author(s) Jackline Wahba

Abstract: In this paper, the determinants of school participation and child labor in Egypt of 6 - 14 year old children are studied at the household level, using micro data from the October 1988 LFSS. Three main logit regression analyses were conducted: the likelihood of a child being enrolled in school, the likelihood of a child working (waged and non-waged) and the likelihood of a child working for paid employment. The main results of these various analyses can be summarized as follows. Child labor increases with age, while school participation decreases with age. Girls are less likely to go to school and to work compared to boys. Family educational attainment is an important determinant of school participation and child labor. The likelihood of school participation increases with the educational attainment of the family. The low level of family education is identified as one of the most important factors in determining child labor. Rural children are more likely to work and less likely to go to school compared to urban children.

Title *Development, Income Distribution and Social Change in Rural Egypt (1952-1970).* Cambridge: Cambridge University Press. 1975

Author(s) Mahmoud Abdel Fadil.

Abstract:

Title *The Political Economy of Nasserism: A Study in Employment and Income Distribution policies in Urban Egypt.* Department of Applied Economics, Occasional Papers No. 52, Cambridge: Cambridge University Press. 1980

Author(s) Mahmoud Abdel Fadil

Abstract: This book presents a serious discussion of the changing urban political economy of Egypt. It first shows how the structure of formal employment has changed in response to rapid industrialization and the expansion in service and tertiary activities which were accompanied by a decline in the relative share of agricultural employment. It stresses that the process of labor relocation was heavily dependent on the expansion of employment in the tertiary sector. This resulted from the massive migration to big urban centers beyond the absorbing capacity of the formal economy hence both informal employment and unemployment grew rapidly. The change in the different elements of wage policies is not seen as pure technical devices or administrative measures, but in terms of the government's social and economic objectives. The main conclusion is that the 1960's witnessed rapid

rise in skilled workers' living standard and significant increase
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Title *Which Institutions Constrain Economic Growth the Most in Egypt?* Cairo: ECES WP No.1. April 1996.

Author(s) Ahmed Galal

Abstract: Although the incentive structure facing the private and public sectors in Egypt has improved following the economic liberalization of the early 1990s, real economic growth has been modest. This paper contends that the sluggish response to improved incentives is due in part to policy uncertainty and the high transaction costs of conducting business; these both follow from excessive regulation, weak enforcement of contracts, and relatively low credibility of government commitment to reform. Based on a random survey of 45 firms in the food, textile, and engineering industries to verify this contention and to identify the most binding institutional constraints, this paper established the ranking of these constraints, from most to least binding, as follows: policy uncertainty, tax administration, access to finance, access to intermediate inputs, labor regulation, and demand. Efforts to induce investment and growth should therefore first and foremost attempt to reduce policy uncertainty.

Title *Incentives for Economic Integration in the Middle East: An Egyptian Perspective.* Cairo: ECES WP No 5. December 1996.

Author(s) Ahmed Galal

Abstract: This paper is an Egyptian perspective on the economic and political incentives for regional integration and examines whether EU trade agreements will stimulate liberalization and promote trade in the region, particularly the Israel/Palestine/Jordan triad. It assesses current incentives and prospects for regional integration. It concludes that Egypt has limited incentives to integrate now. Future regional integration prospects are brighter. Egypt is about to sign an EU partnership agreement, and wants to attract FDI. Both will bring reforms at home and pressure for regional integration to allow access to larger markets, optimize locations across borders, and capitalize on economies of scale.

Title *Savings and Privatization.* Cairo: ECES WP No. 8. December 1996.

Author(s) Ahmed Gala

Abstract: Saving is critical for economic growth. Yet there is general agreement that savings follows growth. The question addressed in this paper is whether and how much additional savings can be generated from privatization and other reforms of the public enterprise sector. This paper argues that public enterprise reform can enhance national savings because it leads to improved productivity and greater inflow of foreign capital. It estimates the potential savings from reforming one-third of the public enterprise sector in Egypt and makes some recommendations to speed up the reform process of the sector.

Title *Globalization, E.U. Partnership and Income Distribution in Egypt.* Cairo: ECES WP NO.12. March 1997.

Author(s) Ishaq Diwan

Abstract: The Mediterranean Partnership initiative was launched by the European Union (EU) in 1994 to achieve deeper regional integration - particularly through developing an area of free trade and cooperation—among the countries of Europe, the Middle East, and North Africa. This paper addresses questions on the effect of a free trade agreement (FTA) with the EU on income distribution in Egypt. The paper asks how the FTA - interpreted here as a first step towards global integration - can help to redress negative distribution effects related to globalization, and thus facilitates the social transition towards a more open economy. It reviews initial conditions and past policies in Egypt; analyzes the effects of trade liberalization and globalization of capital markets on income distribution; and discusses policy interventions that may, with EU assistance, help reduce the negative impact of globalization.

Title *Globalization and the Arab Economics: From Marginalization to Integration.* Cairo: ECES WP No.14. July 1997.

Author(s) Mohamed El-Erian

Abstract: Following an overview of the economic aspects of the ongoing globalization process, this paper documents the extent to which Arab economies have benefited from this process while minimizing the risks. It argues that there is considerable potential, as well as need, for these countries to integrate more fully into the world economy, thereby contributing to their efforts to achieve and sustain high economic growth, create more employment opportunities, and improve living standards. The paper sets out the factors that will determine the extent to which this policy challenge is met. It concludes by pointing to the reasons for optimism: recognition by most Arab governments of the importance of meeting the challenge; the economic reforms that are being implemented in the region in partnership with the private sector; and the success already being achieved by some countries in the region.

Title *The Role of Non-bank Financial Intermediaries.* Cairo: ECES WP No. 31. August 1998.

Author(s) Dimitri Vittas

Abstract: Engendering capital market growth is essential in order to bring the Egyptian stock market out of its slump and ensure sustainable economic growth in Egypt. A short-term plan should revive domestic and international demand for shares by controlling the supply of financial securities and enhancing the quality of issues. Pricing of shares, improving market capitalization and liquidity, enhancing market depth and the developing debt market are features of a short-term action plan. For long-term capital market growth the basic foundations of growth must be improved, including the regulatory framework, human resources and the technological infrastructure of the market. It is necessary to foster an active secondary market and develop a culture of shareholders. Establishing Cairo as the financial center of the Middle East and Africa will build on Egypt's existing resource in the service sector and ensure future growth.

Title *The Egyptian Banking System: Liberalization, Competition and Privatization.* Cairo: ECES WP No. 28. June 1998.

Author(s) Alan Roe

Abstract: Egypt's efforts to liberalize its financial sector in the 1990s have been impressive. Egyptian authorities have been successful in reversing more than three decades of interventionist policies. The fundamental building blocks of this liberalization process now seem solid. They include a reduced fiscal deficit, and the unification and freeing of exchange rates, interest rates, and lending decisions from administrative control. The initial privatization of large banks has removed some of the extensive ownership links between banks one likely cause of uncompetitive banking. The benefits of reform are beginning to show: inflation control consistent with growth rates, confidence in local currency, and buoyant stock market activity buttressed by numerous prominent privatizations. Capital flows into the economy have also been much stronger. Nevertheless, the transformation of the Egyptian financial sector into a modern market-oriented system is still in its infancy. In the future, economic changes which policies can affect should go hand in hand with institutional and attitudinal changes which are potentially more difficult to bring about. Policy makers must continue to work hard to build on the foundations they have laid thus far.

Title *Constraints to Privatization: The Egyptian Experience.* Cairo: ECES WP No. 38. May 1999.

Author(s) Mokhtar Khattab

Abstract: Privatization is perceived as the cornerstone of Egypt's reform program. This paper presents an overview of the challenges that the privatization program has encountered so far and means of tackling them. It discusses the political and legal constraints to privatization, taking into consideration the role of the different actors that are involved in the process, namely the executive authorities, public opinion, press, and the People's Assembly. Implementation constraints are also considered, including social constraints, the valuation process, the absorptive capacity of the stock market, and the selling of loss-making companies to strategic investors. Finally, the paper concludes by offering policy recommendations given that the ultimate objective is to increase the efficiency of public enterprises through divesting state monopoly and encouraging competition within the framework of a market economy.

Title *The Economic Impact of Tourism in Egypt*. Cairo: ECES WPs NO. 40. June 2000

Author(s) Tohamy & Adrienne Swinscoe

Abstract: This paper adopts a comprehensive approach to assess the impact of foreign tourism on the Egyptian economy, which extends beyond their spending on hotels and restaurants. The study uses the economic impact analysis (EIA) methodology to trace direct and secondary effects of foreign tourists' spending on output, value added employment, and tax revenue. The results indicate that the impact of foreign tourists' spending on GDP far exceeds the commonly held figure of around 1 percent. In fact, with respect to value added and output, foreign tourists' spending is 2-3 times that share and the direct impact of foreign tourists' spending on total output in 1999 was \$ 3.6 billion dollars (4.4 percent of GDP). Adding indirect effects, the total contribution to output reaches \$ 9.6 billion (11.6 percent of GDP). As for employment, foreign tourists' spending directly supported 1.2 million jobs in various economic sectors. The total number of jobs directly and indirectly associated with foreign tourists' spending is 2.7 million. The study also estimates tax revenue from foreign tourists' spending at over L.E. 3.6 billion, which corresponds to 5.1 percent of total direct and indirect taxes. The study therefore concludes that tourism's ability to contribute positively to Egypt's economic goals earns that activity a higher rank on Egypt's policy priority list.

Title *Impediments to Dispute Resolution and Firms' Competitiveness in the MENA Region*. Cairo ECES WP No. 42. September 2000.

Author(s)

Abstract: This paper is based on the premise that private sector development is of

crucial importance to the future development of MENA countries. It demonstrates the degree to which various institutional constraints, in general, and impediments to dispute resolution, in particular, reduce the competitiveness of private firms in the MENA region by increasing transaction costs. It describes existing dispute resolutions systems in the MENA region and the impediments to firm competitiveness resulting from their shortcomings. It identifies the three major alternative means of reducing the impediments and costs of dispute resolution, namely legal reform, judicial reform and “alternative dispute resolution” methods (ADRs). Each of these general approaches can take various forms, each form having certain necessary pre-conditions and advantages and disadvantages. Since MENA countries vary considerably in their existing environmental conditions and social objectives, no single approach is likely to be suitable for all. Moreover, individual entrepreneurs facing country-specific disputes may well prefer different approaches. While the paper focuses on MENA countries, it also addresses relevant methods of reform used in some Latin American, Eastern European and East Asian countries, which have been relatively more successful than others

Title *Strengthening SMEs for International Competitiveness*. Cairo ECES WP No. 44. October 2000.

Author(s)

Abstract: With increased globalization, accelerated technical change and the growing demand for higher quality modern products, many traditional small and medium sized enterprises (SME), in developing countries face closure or very difficult upgrading. Even modern SMEs in developed countries face very difficult competitive challenges in the emerging setting. This paper ultimate aim is to lay out some general principles of support to help increasing the competitiveness of SME in developing countries. It starts by identifying three sets of competitive problems that SME are currently facing. The first set is inherent to being small, the second reflects distortions in markets and institutions and the third are caused by policy intervention. Drawing on the experience of supporting SME in the UK and some East Asian countries, the study concludes that while a conducive business environment and private support mechanisms are necessary conditions for SME promotion, they are not sufficient. Pro-active policies are needed to promote SME competitiveness, and while part could be self-financed, a large component may need to be subsidized. It also stress that the success of such policies should be based on a thorough understanding of SME strengths and weakness, and should also be geared to each country’s conditions and institutions.

Title On the Formulation and Enforcement of Competition Law in Emerging

Economies: The Case of Egypt. Cairo ECES WP No. 60. September 2001.

Author(s) Bahaa Ali El Dean and Mahmoud Mohieldin

Abstract: This paper attempts to explain the rationale for competition policy in an emerging economy. It reviews the theoretical debate on the issue, highlighting the claims for and against the adoption of competition policy. The paper then discusses the difficulties facing an emerging economy in formulating competition policy and explores the reasons for the reluctance in implementing competition policy in Egypt. Besides, it sheds light on the recent economic changes that entail the inclusion of competition policy in the economic reform Programme. Finally, the paper provides a review of the Egyptian competition policy and concludes with remarks on the prospects of its implementation.

Title *Investment Policies and Unemployment in Egypt.* Cairo: ECES WP No. 68. May 2002.

Author(s) Samiha Fawzy

Abstract: Since the early 1990s, Egypt has experienced rapid and substantial aggravation of the unemployment problem. And despite consensus about the adverse economic, social and political implications of this problem, the present study starts from the premise that the real danger of unemployment lies in the fact that it reflects low and inefficient levels of investment and growth. Accordingly, this paper attempts to analyze the relation between the levels and patterns of investment and unemployment in Egypt. The ultimate objective is to reach a set of policies that could enhance the levels and efficiency of investments to achieve labor-intensive growth. The analysis shows that the increase in the level of unemployment has been primarily due to the inability of economic policies in general and investment policies in particular to achieve high and labor-intensive growth rates. These policies led to modest investment levels, which weakened the economy's ability to create jobs, and resulted in investment patterns biased against labor-intensive growth. The paper concludes that a diligent approach to handling this problem requires a review of development and investment policies. In this respect, it offers two sets of suggestions. The first deals with the investment policies needed to achieve high and sustainable rates of investment and growth. These policies include macroeconomic measures and policies to improve the investment climate. The second set of suggestions deals with investment incentives and the relative price structure to achieve labor-intensive growth.

Title *Macroeconomic Policies in Egypt: An Interpretation of the Past and Options for the Future.* Cairo: ECES. WP No. 61. October 2001.

Author(s) Ugo Panizza

Abstract: This paper describes the recent evolution of macroeconomic policies in Egypt and derives a simple model (within an IS-LM framework) showing that, until the mid 1990s, the presence of liability dollarization and high pass through from exchange rate to prices may have limited Egypt's ability to conduct an independent monetary policy. However, the paper shows that conditions have changed and that there is now room for a more flexible exchange rate and that, in the light of Egypt's limited ability to conduct counter cyclical fiscal policies, an independent monetary policy is necessary. The paper concludes by describing monetary and fiscal policy reforms that would improve Egypt's macroeconomic management. On the monetary policy side, the paper suggests that Egypt should slowly move towards an inflation-targeting framework. On the fiscal policy side, the paper suggests that Egypt should adopt budget institutions that would allow eliminating its structural deficits and building a reputation for fiscal prudence.

Title *Employment, Budget Priorities and Micro enterprises.* Cairo: ECES WP No. 69. May 2002.

Author(s) Heba Hanndoussa

Abstract: Despite concurrent opinions about Egypt's employment problems, practical remedies are in short supply. The purpose of this essay is to reflect on current conditions in Egypt's labor market and to examine a number of existing opportunities to exploit in favor of a new and innovative path for growth and development. This paper outlines seven accepted propositions in the diagnosis of Egypt's employment dilemma, as well as seven challenging opportunities. It also gives evidence on the prospects and potential of the micro and small enterprise (MSE) sector, while proposing a package of government policies and revisions in budget allocation that can alleviate the unemployment problem and meet the aspirations of the working populace.

Title *Employment and Unemployment in Egypt: Conventional Problems, Unconventional Remedies* Cairo: ECES WP No. 70. August 2002.

Author(s) Samir Radwan

Abstract: The debate on employment and unemployment in Egypt has been a major feature of public policy for the last few years. With unemployment reaching double-digit figures, the social actors have realized that it is time to confront the problem. This paper argues that the implementation of unconventional policies and the creation of institutions are necessary to achieve the objective of "full employment," which has been illusive so far. It makes case for a paradigm shift away from partial solutions to a coherent plan of action. The three major components of this plan are: expansionary macroeconomic

policy, enhancing the productivity of the labor force, and the reform of the civil service. All, of course, are subject to political will to design and implement a coherent and coordinated policy that goes beyond temporary palliatives.

Title *The Macroeconomics of Labor Market Outcomes in MENA over the 1990s: How Growth Has Failed To Keep Pace with a Burgeoning Labor Market.* Cairo: ECES WP No. 71. August 20

Author(s) Jennifer Keller & Mustapha K. Nabli,

Abstract: Providing good employment opportunities is perhaps the greatest challenge facing the MENA region. Unemployment rates in the region are among the highest in the world and the magnitude of the problem is overwhelming. This paper analyzes the major developments in the MENA region during the 1990s and examines the reasons growth has failed and investment has not materialized despite initiating programs of macroeconomic stabilization and structural reform throughout the region. The paper also provides policy recommendations for stimulating job-creating growth.

Title *The Economics of Formalization: Potential Winners and Losers from Formalization in Egypt.* Cairo: ECES WP No. 95. March 2004.

Author(s) Ahmed Galal

Abstract This paper contributes to the ongoing debate about formalization in Egypt and makes the case for adopting reforms to integrate the informal sector into the mainstream economy. It first attempts to explain why Egyptian entrepreneurs choose to stay informal, and then assesses the likely welfare impact of formalization on different economic agents using a partial equilibrium model. The paper concludes that under the current regulatory framework, formalization is not socially desirable. However, with reforms, the potential net benefits of formalization are positive and substantial, with gains accruing to entrepreneurs, workers, consumers, and the government. At the level of the economy, formalization would also lead to higher economic growth, poverty alleviation, and an improved business environment.

Title *The Future of Egypt's Textile and Clothing Exports in Light of New Trade Rules.* Cairo: ECES WP No. 86. July 2003. (Available only in Arabic).

Author(s) Samiha Fawzy

Abstract: International trading rules are undergoing significant changes that will reshape the future of trade in textiles and clothing. These changes include the abolishment of the quota system by 2005; China's accession to the WTO;

emergence of new tools of protectionism; growth of intra-regional trade within trading blocs; and the increasing role of global commodity chains. While these changes reflect a higher level of trade liberalization and hence more export opportunities, they also pose great challenges for the future of Egypt's textiles and clothing exports. The study explores the future of this sector in light of two scenarios. The first is to maintain the status quo, which means not doing any domestic reforms. The second is to take the necessary measures to adapt to and maximize benefits from such changes. The analysis shows that under the first scenario, this sector will be incapable of reaping the benefits of trade liberalization and preserving its current share of international exports. It is imperative therefore to follow the second choice. To conclude, the study stresses that increasing Egypt's share of the international textile and clothing trade requires making significant progress in three main areas, namely, creating the right incentives for producers to export; increasing the competitiveness of Egypt's textiles and clothing exports; and meeting international standards and criteria to ensure access of such exports to overseas markets.

Title *International Tourism Volatility with Special Reference to Egypt*. Cairo: ECES WP No. 83. May 2003.

Author(s) Mohamed Fathi Sakr and Nada Massoud,

Abstract: Over the last 50 years, many developing countries have turned to tourism as a possible engine for economic growth and Egypt is no exception. However, despite its obvious economic benefits, tourism is generally considered a highly volatile industry that is prone to frequent internal and external shocks leading to downturns in activity. This paper examines the extent of tourism volatility and its economic impact. It addresses questions such as: How volatile is the tourism industry? How severe is the impact of tourism downturns on the economy? And how fast is tourism recovery? The paper answers these questions, while assessing the main determinants of Egypt's tourism fluctuations and the effectiveness of its tourism restoration and business compensation policies as mitigation measures.

Title *The Role of the State and Deregulation*. Cairo: ECES WP No. 104. August 2005.

Author(s) Mona El Garf,

Abstract: This paper discusses alternative institutional mechanisms for reducing state intervention in economic affairs and strengthening its regulatory and oversight role. It first explores the rationale for rethinking the role of the state, by assessing the economic cost of maintaining the status quo, and analyzing the relation between reducing state intervention and economic growth. It then reviews the alternative mechanisms in light of international

experience and the main challenges that face reform efforts in this respect. Finally, the paper focuses on Egypt in an attempt to identify the mechanism that both suits the current phase of economic reform and achieves the desired impact on economic growth and development.

Title The Impact of Trade Liberalization on Government Revenues in Egypt. Cairo: ECES WP No. 101. April 2005. (only available in Arabic)

Author(s) Omneia Helmy

Abstract: This paper uses a partial equilibrium model to estimate the revenue impact of the 2004 trade liberalization effort in Egypt. It further simulates the likely impact on revenue if the government were to pursue further trade liberalization. The analysis takes into account both the change in the tariff structure as well as the price elasticity of import demand.

The study concludes that the recent trade liberalization is likely to reduce government revenue in the short run, albeit modestly due to the expected increase in imports in response to lower prices. As for the simulation results, the analysis indicates that additional tariff reductions along the lines of more liberal developing countries can be designed in such a way as to make it revenue-enhancing.

Title *Fiscal and Public debt Sustainability in Egypt.* Cairo: ECES WP No. 97. May 2004.

Author(s) Pedro Alba, Sherine Al-Shawarby and Farrukh Iqbal

Abstract: This paper assesses the sustainability of public debt in Egypt in light of fiscal trends in recent years. It analyzes the key fiscal variables underlying recent growth in public debt, explores whether this debt is structural or cyclical, and simulates the debt-output trajectory based on different assumptions in key macroeconomic variables. The paper draws four main conclusions. First, Egypt presently has a high debt-output ratio compared with a sample of lower-middle income countries. Second, the debt is being driven by structural rather than cyclical factors. Third, the structural weaknesses of the budget are mainly related to low tax buoyancy and yields as well as to rising wage and subsidy expenditures. Finally, simulation results suggest that fiscal adjustment is needed to restrain debt growth and to achieve greater sustainability..

Title *Public and Private Investment in Egypt: Crowding-Out or Crowding-In?* Cairo: ECES WP No. 96. April 2004.

Author(s) Samiha Fawzy and Nihal El-Megharbel

Abstract: There is growing consensus on the importance of investment as a determinant for economic growth. However, the relationship between public and private investment was and is still debatable in several developed and developing countries. The situation in Egypt is no exception. While some economists view public and private investments as competitive, others consider them complementary. This paper aims to analyze and assess the relationship between public and private investment in Egypt, in order to propose relevant policies to rationalize and increase the efficiency of public investment, and boost private investment. The study concludes that public investment in non-infrastructure activities crowds out private investment, while public investment in infrastructure such as roads, ports, electricity, education and health complements and encourages it. In light of these results, the paper offers two sets of proposals. The first, which relates to public sector investment in non-infrastructure projects, suggests that no new investment should be channeled to these projects. It also suggests continuing the maintenance and rehabilitation of existing projects, especially in the banking sector and capital market, in addition to encouraging privatization. The second stresses the importance of enhancing the efficiency of public investment in infrastructure, particularly in the education and health sectors, while encouraging private sector participation (domestic and foreign) in infrastructure projects in addition to looking for new and varied sources of financing.

Title *Civil Service Wages and Reform: The Case of Egypt.* Cairo: ECES WP No. 98. May 2004.

Author(s) Heba Handoussa and Nivine El Oraby

Abstract: This paper analyzes the causes and ramifications of excessive civil service employment in Egypt and makes recommendations for future reforms. It attributes the problem to past policies, which combined guaranteed government employment for all graduates of intermediate and higher education together with free schooling for all. These policies led to an excessive demand for education, deterioration of its quality and a mismatch between the supply and demand for labor. At the same time, the government wage bill has become a budgetary burden, despite a decline in productivity and real wages of civil service employees. To mitigate these adverse effects without compromising on equity and social stability, the paper advocates a new social contract that breaks away from past policies. The new social contract will address the civil service problem through rapid economic growth, a better human development strategy, and a host of other measures that go beyond simply reducing the number of employees or their wages.

Title *The Poor in the Egyptian Labor Market during an Adjustment Period: For Better or Worse?* Unpublished manuscript. N.D.

Author(s) Tamer Afifi

Abstract: The purpose of this paper is to examine the changes in the level and distribution of earnings in the Egyptian labor market and the main factors underlying these changes during the period of the Egypt Reform and Structural Adjustment Program (ERSAP 91). Geographically, the paper is concerned with Egypt as a whole and the time period is 1988-1998. The methodology used in this paper is based on a comparison between two sets of micro data at household level, before and after the implementation of ERSAP 91, using earning percentiles, variances and percentile differentials. The main finding is a decrease in earnings inequality in Egypt during the study period.

Title *Rising to the Challenge: International Crisis and Economic Management in Egypt.* Conference Proceedings: Cairo: Center For Economic and Financial Studies. Faculty of Economics and Political Sciences; Cairo University in collaboration with USAID, Egypt. 2004. Pp. 506.

Author(s) Heba Nassar and Hala El-Said (Eds.).

Abstract: This volume includes a number of excellent papers –in Arabic and English– on the management of the economic crisis in Egypt. It covers four basic themes, management of exchange rate and monetary policy, challenges to fiscal policy and external debt management; investment under uncertainty; exploiting the investment potential under the constraints of regional crisis; and social, legal and political risk management. The editors preface summarizes some of the papers and some of the main themes discussed in the conference.

Title Institutional and Policy Challenges Facing the Egyptian Economy. Conference proceedings. Cairo: Center For Economic and Financial Studies. Faculty of Economics and Political Sciences; Cairo University in collaboration with USAID, Egypt. 2003. Pp. 407.

Author(s) Heba Nassar and Ahmed Ghoneim (Eds.).

Abstract: The 15 papers included in this volume are concerned with the themes of commercial and competition law in Egypt; the financial and monetary aspects; trade reform, and the relationship between fiscal policies and institutional aspects.

Title Summary of existing knowledge on Micro and small enterprises. Cairo: Center For Economic and Financial Studies. Faculty of Economics and Political Sciences; Cairo University. Occasional papers, Vol. 25; April 2004.

Author(s) Heba Nassar

Abstract: The objective of this paper is to summarize existing research literature and regroup it according to key issues for planning process in Egypt by first defining the MSE and determining their main characteristics, secondly, examining their contribution to the following: growth rate strategy, investment strategy, saving strategy, balance of payments strategy, and export promotion, strategy of equal life opportunity for Egypt's population, technology strategy and allocation strategy. In addition, it identifies the challenges and difficulties facing micro/small economy as well as macro-economy key strategies for micro and small enterprises.

Title The impact of American Economic Aid on Development and Growth in Egypt. Cairo: Center For Economic and Financial Studies. Faculty of Economics and Political Sciences; Cairo University. Occasional papers, Vol. 33; February 2005.

Author(s) Abla M. El Khawaga

Abstract: This paper concentrates on aid/development and aid/development relationships at the macro level in Egypt. The study first targets aid/development relationship based on a quantitative analysis while the analysis of the impact of aid on growth is based on qualitative analysis. The paper finds a positive relationship between aid and growth and that the role of policies in assessing the effectiveness of aid is not conclusive in the case of Egypt.

Title Proceedings of Seminar on: Issues of Regionalism and Multilateralism: Options for Egypt. Cairo: Center For Economic and Financial Studies. Faculty of Economics and Political Sciences; Cairo University. Occasional papers, Vol. 23; November 2003.

Author(s) Several

Abstract: This publication is the product of a one day seminar held jointly between the Center For Economic and Financial Studies. Faculty of Economics and Political Sciences; Cairo University and the Embassy of Australia in 2002. The publication is divided into three papers dealing with globalization versus regionalism, regulatory provisions in regional trade agreements (RTAs) and handling agriculture in the context of both WTO and RTAs. The outcome of the papers emphasized several points: that Egypt and other developing countries went regional instead of dealing with WTO because of the frustration with the unfair rules of multilateral schemes. It also pointed out that WTO is not so clear till now about the provision Article XXIV concerning RTAs and how can sustainability of all trade be interpreted. Furthermore, Egypt does not have a clear policy on how to address the RTAs

Title Trade and Migration: Are they Complementary or Substitutes: A Review of Four MENA Countries. Cairo: Center For Economic and Financial Studies.

Faculty of Economics and Political Sciences; Cairo University. Occasional papers, Vol. 28; March 2003.

Author(s) Heba Nassar and Ahmed Ghoneim

Abstract: This study aims at reviewing two types of migration flows arising within the Middle East North Africa region, and to investigate their relationship with trade; the south-north and south-south flows. The study reveals that both flows are not correlated to trade flows in any deterministic way. To overcome the chronic economic problems faced by most MENA countries, especially those related to labor market and unemployment problems, and to make use of the conventional wisdom of trade as a substitute for migration, the study recommends several policy measures that can be adopted at the local, regional and international levels.

Title Moving Ahead from Doha to Cancun: The Formulation of Arab Countries' Negotiating Position. Proceedings of Regional Experts Meeting. Cairo: Center For Economic and Financial Studies. Faculty of Economics and Political Sciences; Cairo University in collaboration with Friederich Ebert Stiftung. 2003..

Author(s) Ahmed Ghoneim (ed.).

Abstract: This volume contains five background papers discussing the preparations of five Arab countries: Egypt, Jordan, Lebanon, Morocco and Tunisia for the Cancun' ministerial round of Negotiations. The purpose of the paper is to help those interested in WTO matters to understand the domestic policies related to WTO matters in the five countries. The volume suggests the way forward along which the Arab countries should proceed.

Title ***MIGRATION AND MOBILITY IN THE EGYPTIAN LABOUR MARKET.***
ERF Working Papers No.

Author(s) Barry McCormick and Jackline Wahba

Abstract: The objective of this project is to build a picture of various dimensions of labor mobility in Egypt during the period of adjustment. In this research project we have proposed to study three main areas: i) the changing structure of internal migration, ii) the influence of the public sector and privatization on the transformation of the Egyptian economy; and iii) informalization of the labor market and mobility. The researchers examined the pattern and structure of internal migration in Egypt and we also study the impact of economic reforms on the geographical job mobility of workers. Although as a result of economic transition, considerable population movements are expected, this has not been the case in Egypt. The data from the 1986 and 1996 Population Censuses and from the two surveys- 1988 LFSS and 1998

LMS- indicate that migration has dropped during transition and has become a relatively rare phenomenon in Egypt. On the other hand, geographical labor mobility has increased in the 90s suggesting that geographical re-location of jobs during the adjustment period. The most significant change in the pattern of labor mobility has been the increase in the number, the likelihood and rate, of workers becoming mobile- i.e. not having a fixed geographical location.

The aim of the second paper is to examine the effect of economic reforms on public sector employment in Egypt. They focused on sectoral mobility, in particular from the public to the private sector, since structural adjustment requires a shift of resources from non-competitive sectors to more competitive ones and from inefficient sectors to efficient ones. The researchers found no evidence of public-private sectoral mobility during adjustment. However, the empirical evidence indicates that there has been an increase in the probability of withdrawal from the labor market by public sector. In other words, no significant labor reallocation among *existing* workers took place during adjustment, but early retirement has been the main method used to reduce public sector employment.

This paper also tests for whether informality has increased during the adjustment era. We examine (i) whether economic reforms have led to higher in-mobility rates to informal employment, and (ii) whether new workers are more likely to be engaged in informal employment by the end of the adjustment decade. After controlling for various individual characteristics and more importantly for life cycle effects, the main finding is that informalization has increased in the Egyptian labor market during the 90s. In the 1990's, the probability of being informal worker increased by 5 percent. In addition, the results indicate that the predicted probability of a new entrant being informal increased mainly for females who experienced a rise of 12 percentage points in their probability of being engaged in informal employment during the 90s. Overall, the empirical evidence suggests that informalization has increased mainly due to the rise in the probability of new entrants joining informal employment.

Title *EGYPT: THE DOMINANT ROLE OF AGRICULTURE AND THE RURAL SMALL-SCALE SECTOR.* MONITORING, VERIFICATION AND EVALUATION UNIT AGRICULTURAL POLICY REFORM PROGRAM. Government of Egypt, Ministry of Agriculture and Land Reclamation and United States Agency for International Development/Cairo Office of Economic Growth, Agricultural Policy Division. Impact Assessment Report No. 7, December, 1999.

Author(s) John W. Mellor and Sarah Gavian

Abstract: Recent cross-national and inter-temporal studies of growth show that in low- and middle income countries, the direct and indirect effects of agricultural growth account for the bulk of job formation and poverty reduction. Egypt

has an unusually productive agricultural resource base and therefore unusual capacity to achieve the rates of agricultural growth that can greatly increase job formation.

This study divides the Egyptian economy into three sectors particularly relevant to employment growth. The first is agriculture. Second is the agriculturally-driven nonagricultural sector (ADNA), which is effectively the bulk of rural and market town small scale enterprises for which farmers are the underlying source of demand, largely consumption goods and services, but including input supply and marketing. Third is the autonomous non-agricultural sector, which is effectively the rest of the economy, largely the metropolitan activities of manufacturing and government and attendant services. Estimates are made of the size, growth rates and employment of these sectors in the initial period (1996/97). Growth rates are projected from 1996/97 to 2006/07 and the impact on employment measured.

The accounting framework developed for this study traces the effect of a high growth rate in both the agricultural sector and the autonomous non-agricultural sector. That growth rate reaches 8.2% by 2006/07, growing at a pace consistent with an extrapolation of the World Bank's high projection of 7.5% by 2004/05. The agricultural growth rate of 4.9% is comprised of rapid growth in horticulture and livestock, sufficient to meet rapidly growing domestic demand for horticulture and livestock and some exports for horticulture, as well as a moderate growth rate in field crops. Such favorable growth rates require conducive policies and institutional development.

In this scenario with high, sectorally balanced growth, annual additions to employment reach 924,000 by the end of the period (2006/07), assuming constant elasticity's of employment for each sector over the decade. As the surplus labor force is absorbed, real wage rates should rise, boosting incomes for lower income people as they benefit from both more employment and higher wages. Forty-four percent of the 924,000 jobs created in the final year of the analysis are created in the autonomous non-agricultural sector. Of the rest, 26% are directly in the agricultural sector while 74% are the result of increased agricultural incomes stimulating growth in the highly labor-intensive rural and small-town sector (ADNA). Farmers enlarge their houses, buy local furniture and garments and use far more local services as their incomes rise. The high employment content of that sector then causes massive employment increases. This is the same phenomenon noted in the fast-growth countries of Asia.

The impact of agricultural growth on employment is shown by constraining the horticultural and livestock growth rates to three percent and assuming no future acceleration of rates of technological improvements. Such would be the effect of failing to make necessary policy and institutional changes to the production and marketing environment surrounding agriculture. In this case, employment growth would fall 42% below the high balanced growth scenario (533,000 versus 924,000). That is the difference between substantially exceeding labor force growth rates with consequent increasing real wages and falling substantially short of labor force growth with

declining real wages.

Constraining agricultural growth only reduced the GDP growth rate by 6% because the sector is a small and declining part of GDP. Indeed, even in the high balanced growth scenario, agriculture declines in ten years from 16% of GDP to 11%, as is normal in fast growth economies. The sum of the agriculture and agriculturally driven sectors declines from 32% of GDP to 23%. These two sectors are so employment-intensive that they dominate employment growth.

The accounting framework also permits a test of the importance of autonomous nonagricultural growth to GDP and employment. When autonomous non-agricultural growth is constrained to 5%, the overall GDP growth rate declines 41% (to 4.8%), while employment growth falls by 38% (to 572,000). The large impact of the autonomous sector on employment occurs because the sector generates much of the effective demand for the livestock and horticultural products that stimulate agricultural growth. Until greater demand for livestock and horticultural exports can be developed, domestic demand will remain essential to fast growth.

Thus, high growth rates in the agriculture related sectors (agriculture and ADNA) are essential to high employment growth rates, and high non-agricultural growth is essential to high rates of agricultural growth. As long as much of the economy remains non-tradable (i.e., dependent on domestic demand), balanced growth will be important.

The accounting framework was also used to compute the employment impact of moderate balanced growth rates in the various sectors. In that case, agriculture grows at 3.6% and the autonomous sector at 7.0%. Although the employment growth is faster than in either of the two more constrained cases, it still falls far short of what will be needed to tighten the labor market. Thus, if Egypt is to absorb a swelling number of new entrants to the labor force, it needs to achieve rapid growth in both its agricultural and nonagricultural sectors. That is a major challenge, but not an impossible one. The emphasis of recent years on agricultural policy reform has been well placed. Achieving the high growth rates in agriculture essential to generating employment requires continuation of those reforms and their fine-tuning to subsector needs. Rapid agricultural growth is also dependent on the rapid evolution of institutions that support small-farm agriculture, and particularly in the livestock and horticultural sub-sectors.

Title *Labor Force Profile in Rural Upper Egypt versus Rural Lower Egypt.*
Cairo: Cairo Demographic Center, Research Monograph Series No.22, 1993.

Author(s) Zohry, A. G.

Abstract:

Title *For Better Or For Worse? The Status of Women in the Labor Market in*

Egypt, 1988 – 1998: Final Report. EGYPT LABOR MARKET PROJECT
Cairo: Economic Research forum for the Arab Countries, Iran and Turkey.
August 2000

Author(s) Safaa El-Kogali

Abstract: In October 1998, the Egypt Labor Market Survey (ELMS) was conducted. This nationally representative survey at the regional level consists of 5000 households and is rich with information on women in the labor market. It was closely designed to the 1988 Special Round of the Labor Force Sample Survey (SRLFSS) and was conducted at exactly the same time, ten years later. The survey was designed in a manner to capture as much female activity as possible, especially wage work. The ELMS offers a unique opportunity to measure changes in the labor market in general and the status of women in particular during the past ten years – a decade of major reforms and structural changes in the Egyptian economy.

Based on data from the ELMS and the 1988 SRLFSS, this report aims to observe changes in the status of women in Egypt's labor market between 1988 and 1998. Changes in status will be measured through a comparison of the quantity, structure and quality of women's work between the two periods, noting gender gaps and differences by age, education level and urban/rural location. The objective is to shed some light on how women fared in the labor market at a time of major structural changes in the economy. By no means is the report an attempt to measure the impact of these changes on women's position in the labor market. Other than the fact that causality will be difficult to establish, this is a task that requires more sophisticated methodology and deeper analysis – both of which are beyond the limited scope of this paper. This study attempts to give a preliminary indication of changes in participation patterns among women and to highlight the issues and formulate hypotheses that may direct further research. The structure of the paper is as follows: Section one discusses changes in women's labor force participation. Sections two observes trends in unemployment. Section three looks at changes in employment status and the structure of work. Section four investigates working conditions during the two periods. Section five gives a brief profile of female wage workers, and section six concludes.

Title Civil Service Wages and Reform: The Case of Egypt. Cairo. ERF working Papers No. 98, November, 2004.

Author(s) Heba Handoussa and Nivine El-Oraby

Abstract: This paper analyzes the causes and ramifications of excessive civil service employment in Egypt and makes recommendations for future reforms. It attributes the problem to past policies, which combined guaranteed government employment for all graduates of intermediate and higher education together with free schooling for all. These policies led to an

excessive demand for education, deterioration of its quality and a mismatch between the supply and demand for labor. At the same time, the government wage bill has become a budgetary burden, despite a decline in productivity and real wages of civil service employees. To mitigate these adverse effects without compromising on equity and social stability, the paper advocates a new social contract that breaks away from past policies. The new social contract will address the civil service problem through rapid economic growth, a better human development strategy, and a host of other measures that go beyond simply reducing the number of employees or their wages.

Title *Human Capital, Technological Spillovers and Trade in the MENA Countries.* Cairo. ERF working Papers No.21, 1999.

Author(s) Hamid Mohtadi

Abstract: The role of education, technological diffusion and trade is investigated for 11 MENA countries for 1980-1992, using panel data techniques. Technological diffusion is measured by R&D activities in each country's major trading partners and that country's import propensity from each partner. Results suggest that although education contributes to economic growth, this impact is somewhat limited. Further investigation suggests that this limited impact may be caused by the inefficient adoption and diffusion of technology in MENA, possibly because of the relative inwardness of such sectors. Policy implications stress that economic openness is key in allowing human capital to contribute to technological diffusion.

Title *INTERNAL AND EXTERNAL ECONOMIES IN EGYPTIAN MANUFACTURING, 1970-1997.* Cairo. ERF working Papers No. 33, 1999.

Author(s) Hélène Cottenet

Abstract: Working Paper 0133

Abstract

Testing for the existence of internal and external economies in Egyptian manufacturing industries can help defining an active targeted industrial policy promoting long-run growth. The Caballero and Lyons (1989) methodology has been used to disentangle external from internal economies in a production function at the two-digit level. Our findings suggest that on average in both public and private manufacturing sectors, the returns to scale are constant and that the externalities are non-existent. But some industries should deserve special attention, generating positive externalities: Chemicals, Mineral and Engineering industries in the public sector; Food and Textile industries in the private sector.

Title *PERFORMANCE & CREDIT RISK IN BANKING: A COMPARATIVE STUDY FOR EGYPT AND LEBANON.* Cairo ERF Working Paper 0137, 1999.

Author(s) Sam Hakim and Simon Neaime

Abstract: We investigate the performance and risk in two prominent countries in the MENA region, Egypt and Lebanon, where banks operate under market-oriented economic regimes. The study covers the 1990's, a period that witnessed banking sector reforms towards a more efficient financial system. Noting the differences in the structure of the banking system and the monetary changes in Egypt and Lebanon, we investigate the impact of liquidity, credit, and capital on bank profitability in each country's banking sector. Based on our findings, we draw conclusions on the strength of risk management practices and enforcement of banking regulations.

Title *EGYPT'S GROWTH PERFORMANCE UNDER ECONOMIC LIBERALISM: A REASSESSMENT WITH NEW GDP ESTIMATES, 1885-1945.* Cairo: ERF WP No. 11, 2002.

Author(s) Tarik M. Yousef

Abstract: Following a period of rapid growth in the late 19th century, Egyptian real per capita income stagnated in the first half of the 20th century. This widely accepted belief is based on trends in agricultural productivity but a fragmented body of evidence on aggregate output. In particular, no estimates of national income exist for any extended period prior to WWII. Using money-based co-integration approach and a new measure of broad money; we exploit Egypt's intimate economic links with the UK to provide the first continuous estimates of GDP for the period 1885-1945. Our estimates are consistent with trends in agriculture and other stylized facts about the Egyptian economy in the late 19th and first half of the 20th century. The empirical results provide support and some qualification to the conventional wisdom about Egypt's growth performance in addition to offering a detailed characterization of output cycles.

Title *INITIAL AND AFTERMARKET PERFORMANCE OF EGYPTIAN SHARE ISSUE PRIVATIZATION.* Cairo: ERF Working Paper 0227,

Author(s) Mohammed Omran

Abstract: The phenomenon of under pricing initial public offerings is documented for 53 Egyptian share issue privatizations (SIPs) between 1994 and 1998. In the long run, I find mixed results. SIPs sustain their positive performance and provide investors with abnormal returns over a one-year period, however, over 3 and 5 year horizons, the results document negative abnormal returns. The initial excess returns are determined by ex-ante uncertainty and demand multiplier, while the aftermarket abnormal returns are dominated, mainly, by initial excess return and price-earning ratio, in addition to ex-ante uncertainty and demand multiplier. The empirical findings of this paper are consistent with the initial public offerings market in which investors are over optimistic

towards the performance of these issues but grow more pessimistic over time.

Title *HELPING TO IDENTIFY THE POTENTIAL AND MODE FOR LIBERALIZATION OF TRADE IN SERVICES IN THE SOUTHERN MEDITERRANEAN COUNTRIES: THE CASE OF EGYPT.* Cairo: ERF Working Paper No.03, 2003.

Author(s) Ahmed Farouk Ghoneim

Abstract: The potential of utilizing the liberalization of services for a number of Southern Mediterranean countries is great in a large number of sectors. Nevertheless, the importance of this potential is still not realized by those countries. The liberalization of trade in services has often been relatively neglected by the Southern Mediterranean countries in their trade liberalization efforts whether on unilateral, regional or multilateral levels. This paper aims to identify the comparative advantage of Egypt, as an example of a Southern Mediterranean country liberalizing its trade in services. This is undertaken by emphasizing two aspects: the comparative advantage that Egypt acquires in a number of services and the reduction in the transaction costs that liberalization of services can bring to many sectors of the economy. The paper then goes on to analyze whether Egypt should seek the regional or the multilateral mode. Finally, the paper provides some policy recommendations on which services sectors should be liberalized and whether to build on the comparative advantage or to reduce transaction costs and which mode of liberalization should be adopted.

Title *SURVIVAL OF SMALL-SCALE MANUFACTURING IN CAIRO DURING STRUCTURAL ADJUSTMENT RESULTS FROM A LONG-TERM STUDY.* Cairo: ERF Working Paper 2021

Author(s) Günter Meyer

Abstract: The structural adjustment policy in Egypt has caused a dramatic decline in demand for many goods produced in the handicraft sector. A long-term study between 1986 and 1998, of 2,415 workshops in six quarters of Cairo determined that the majority of the small enterprises were able to secure their economic survival due to their flexibility in production and their informal employment strategies, which included the reduction of permanent male wage labor in favor of low-paid women and children or unpaid family members. In some handicraft branches it was also evident that the highly praised credit program for the support of small enterprises, while helping to raise the level of technology in small-scale manufacturing, at the same time destroyed more jobs than it created, due to the flooding of the market with similar products.

Title *INCENTIVE-BASED REGULATIONS AND BANK RESTRUCTURING IN EGYPT** Paper originally presented at annual conference of the Middle East Economic Association, January 2001, ERF Working Paper 2040

Author(s) Alaa El-Shazly

Abstract: *

The Egyptian authorities undertook major banking reforms in the 1990s to create a more efficient financial system. These reforms included the strengthening of bank supervision and regulations on the basis of internationally accepted standards, to deal with the risks inherent in the new policy environment. This paper looks at banking regulatory policy in Egypt and the incentive schemes to foster healthy competition and ensure financial stability. It highlights the impediments to stronger enforcement mechanisms and considers various schemes for monitoring bank behavior under informational asymmetries, while also looking at the design of incentive-compatible safety nets. The paper also investigates the microeconomic evidence – for the 1991- 1998 period - on the existence of market discipline with a model that relates deposit growth as a measure of market discipline to bank asset risk and solvency measures.

Title *Detecting the Performance Consequences of privatizing Egyptian State Owned Enterprises: Does Ownership Structure Really Matter?* Cairo: ERF Working Papers No. July 2001

Author(s) Mohammed Omran

Abstract: The intention of this paper is to evaluate the financial and operating performance of the newly privatized Egyptian firms and to highlight whether such performance differs across firms according to their new ownership structure. The study covers 69 firms, which were privatized from 1994 to 1998. Even though the study follows the standard approach of Megginson, Nash and Randenborgh (1994), Boubakri and Cosset (1998), and D'Souza and Megginson (1999), the author considers another dimension in testing and evaluating the changes in financial risk of privatized firms; he further documents significant improvements in profitability, operating efficiency, capital expenditure, and dividends. On the other hand, he finds significant decreases in employment, leverage, and risk, whereas output shows an insignificant decrease following privatization. He then classifies and analyzes the 69 firms according to the privatization method of sale: majority, minority, employees' shareholder association (ESA), and anchor investors. His empirical results find that firms which were sold to ESA and anchor investors seem to outperform other types of privatization; in contrast, the minority type tends to perform less when compared with the other privatized firms.

Title **Microeconomics of Growth in Egypt The Role of Households and Institutions. Cairo: ERF Working Papers No. June 2002**

Author(s) Ragui Assaad

Abstract: rassaad@hhh.umn.edu

Macroeconomic analyses of growth in Egypt indicate that labor contributes very little to growth, and that human capital, and in particular female human capital, contributes little to increases in total factor productivity. These puzzling results come at a time when the role of human capital in generating growth is being increasingly stressed in the international literature and when investment in female human capital, internationally, is deemed to be one of the activities with the highest social returns. One of the main objectives of this paper is to shed light on these seemingly puzzling results by analyzing the microeconomics of the production and deployment of human capital in the Egyptian economy, with a particular emphasis on the institutional contexts in which these decisions are made.

Making productive use of human resources is particularly critical at this stage of Egypt's development as the country enters into its "demographic window of opportunity". This is the phase in the demographic transition when the ratio of the working age to the dependent population rises, providing at least a potential for more rapid growth. Because women constitute a least half of the working age population, achieving this potential will in part depend on the extent to which they are able to participate in productive employment.

The main argument of the paper is that the longstanding policy of the Egyptian government to guarantee employment in the government for secondary school and university graduates has distorted household decisions as to the level and type of human capital to acquire and has entrapped significant portions of whatever human capital is being produced in unproductive government employment. With the distorted signals households receive from the labor market; their main objective in investing in the human capital of their children is to assure them access to a government job in the future. As a result, they invest heavily in forms of education, like vocational secondary school and higher technical institute education that have very low, or even negative, returns in the private sector. Faced with strong demand for such education from the population, the government supplies it, at the cost of being unable to guarantee universal basic education of decent quality. It is easy to see how such policies, applied over a long period of time, result in the entrapment of a significant portion of Egypt's educational human capital in unproductive government jobs, leading to the observed low productivity of human capital in the economy. The situation is further compounded in the case of women by social norms defining what constitutes appropriate employment for women. These norms translate into significant barriers to entry for women into the private sector and a strong preference for the more equalitarian and family-friendly government employment among educated

women.

In Section I of the paper, I focus on developments on the demographic front, focusing on the recent fertility declines that opened up the demographic window of opportunity. In section II, I examine household decisions on human capital investments as shaped by government policies relating to the supply of education and to the provision of guaranteed public sector employment for graduates. Section III examines how a move away from excessive reliance on public sector employment is hampered by social norms about what constitutes appropriate employment for women.

Title *ALTERNATIVE SOCIOECONOMIC DEVELOPMENT SCENARIOS FOR EGYPT: RESULTS FROM AN ECONOMY-WIDE SIMULATION MODEL.* June 2002

Author(s) Motaz Khorshid

Abstract: In light of the development priorities of the fifth five-year socioeconomic plan (2002-2007) and the current structural problems facing Egypt, three development scenarios are formulated and tested using a central computable general equilibrium model supported by issue-specific sub-models and inter-period dynamic adjustment relations. The first scenario assumes the continuation of the economic policies and development trends applied during the 1990 decade (Laisser-Faire Scenario). To overcome the current slowdown of the economic activity, the second scenario is directed to enhance economic growth prospects of the economy through an increase in investment spending, selection of appropriate demand management policies, promotion of exports and improvement of total factors efficiency. The last scenario, is directed to restore Egypt's ' external balance via promotion of exports and reduction in demand for imports. Medium-term projections from the model indicated that the "Laisser-Faire Scenario" results in a deterioration of economic growth, further structural imbalances, a decline in welfare measures of citizens and higher unemployment rates. The economic growth scenario is superior to other alternatives with respect to growth targets, welfare measures, labor market behavior and public sector performance. External balance is however superior to other scenarios with respect to trade balance, current account deficit, saving performance and the country's capacity to invest.

Title *Monetary Policy and Public Debt Management: An Empirical Assessment of The Egyptian Experience*

Author(s) Rania A. Al-Mashat¹

Abstract: This paper is the first to empirically address the relationship between the interest rate dynamics and public debt management for the Arab Republic of Egypt. During 1991-1998, the government of Egypt launched an Economic Reform and Structural Adjustment Program adopting the exchange rate as a

nominal anchor. Over the same period, the country had experienced an unparalleled surge in capital inflows which can be categorized into two distinct episodes based on their cause, type and magnitude. The Central Bank of Egypt engaged in massive sterilization efforts which have successfully maintained the peg for almost eight uninterrupted years. Utilizing the Vector-Auto regression (VAR) Framework, two separate Bivariate VAR s are estimated. I show that the monetary authorities' response differed during the two capital inflow episodes. The different reactions were functions of the type of inflows, expectations in the market, and the holders of the domestic debt. To defend the peg, the maturity structure of public debt (public debt management), the interest rate differentials and the yield spreads (monetary policy), were utilized to accumulate international reserves to cushion against possible capital reversals. This, however, has been accompanied by an increasing fiscal burden that is adversely affecting the credibility of the stabilization program.

Title *Which Institutions Constrain Economic Growth the Most in Egypt?*

Author(s) Ahmed Galal April 1996, (WP01) ECES

Abstract: Although the incentive structure facing the private and public sectors in Egypt has improved following the economic liberalization of the early 1990s, real economic growth has been modest. This paper contends that the sluggish response to improved incentives is due in part to policy uncertainty and the high transaction costs of conducting business; these both follow from excessive regulation, weak enforcement of contracts, and relatively low credibility of government commitment to reform. Based on a random survey of 45 firms in the food, textile, and engineering industries to verify this contention and to identify the most binding institutional constraints, this paper established the ranking of these constraints, from most to least binding, as follows: policy uncertainty, tax administration, access to finance, access to intermediate inputs, labor regulation, and demand. Efforts to induce investment and growth should therefore first and foremost attempt to reduce policy uncertainty.

Title The Egyptian Banking System: Liberalization, Competition and Privatization.

Author(s) Alan R. Roe June 1998, (WP28) ECES

Abstract: Egypt's efforts to liberalize its financial sector in the 1990s have been impressive. Egyptian authorities have been successful in reversing more than three decades of interventionist policies. The fundamental building blocks of this liberalization process now seem solid. They include a reduced fiscal deficit, and the unification and freeing of exchange rates, interest rates, and

lending decisions from administrative control. The initial privatization of large banks has removed some of the extensive ownership links between banks one likely cause of uncompetitive banking. The benefits of reform are beginning to show: inflation control consistent with growth rates, confidence in local currency, and buoyant stock market activity buttressed by numerous prominent privatizations. Capital flows into the economy have also been much stronger. Nevertheless, the transformation of the Egyptian financial sector into a modern market-oriented system is still in its infancy. In the future, economic changes which policies can affect should go hand in hand with institutional and attitudinal changes which are potentially more difficult to bring about. Policy makers must continue to work hard to build on the foundations they have laid thus far.

Title The Role of Non-Bank Financial Intermediaries.

Author(s) Dimitri Vittas, August 1998, (WP31) ECES

Abstract: Engendering capital market growth is essential in order to bring the Egyptian stock market out of its slump and ensure sustainable economic growth in Egypt. A short-term plan should revive domestic and international demand for shares by controlling the supply of financial securities and enhancing the quality of issues. Pricing of shares, improving market capitalization and liquidity, enhancing market depth and the developing debt market are features of a short-term action plan. For long-term capital market growth the basic foundations of growth must be improved, including the regulatory framework, human resources and the technological infrastructure of the market. It is necessary to foster an active secondary market and develop a culture of shareholders. Establishing Cairo as the financial center of the Middle East and Africa will build on Egypt's existing resource sin the service sector and ensure future growth.

Title Constraints to Privatization: The Egyptian Experience

Author(s) Mokhtar Khattab, May 1999, (WP38) ECES

Abstract: Privatization is perceived as the cornerstone of Egypt's reform program. This paper presents an overview of the challenges that the privatization program has encountered so far and means of tackling them. It discusses the political and legal constraints to privatization, taking into consideration the role of the different actors that are involved in the process, namely the executive authorities, public opinion, press, and the People's Assembly. Implementation constraints are also considered, including social constraints, the valuation process, the absorptive capacity of the stock market, and the selling of loss-making companies to strategic investors. Finally, the paper concludes by offering policy recommendations given that the ultimate objective is to increase the efficiency of public enterprises through divesting

state monopoly and encouraging competition within the framework of a market economy.

Title Do Governments Pick Winners or Losers? An Assessment of Industrial Policy in Egypt

Author(s) Ahmed Galal and Nihal El-Megharbel, December 2005, (WP108) ECES

Abstract: This paper assesses the merits of selective intervention (or industrial policy) in the Egyptian manufacturing sector over the period 1980-2000 to determine whether this policy contributed to increased diversification and improved performance of different industries. The paper finds no positive association between the preferential incentives accorded to different industries and their performance, and attributes this result to the way the incentives were designed. Looking ahead, the paper argues in favor of redesigning industrial policy to target activities with positive spillover effects rather than specific sectors, and new rather than old products and technologies. Last but not least, the new industrial policy should be performance-based and ought to be applied for a pre-specified period of time.

Title Trade Integration With Europe & Labor Reallocations in the South Mediterranean Countries: The Case of Egypt 199918

Author(s) Sébastien Dessus, Akiko Suwa-Eisenmann

Abstract: This paper looks at the implications of the Euro-Mediterranean partnership agreement on labor and wages in Egypt, using a dynamic CGE model, which takes into account the labor market segmentation. Our results suggest that trade liberalization bears the risk of promoting the use of capital-intensive technology, thus reducing the employment content of growth. Employment policies that increase the mobility between the segments of the labor market and wage flexibility could enhance the job creation effect induced by trade liberalization. Employment and trade policies are also complementary in political terms, by alleviating the losses borne by the insiders following the entry of new workers into the labor market.

Title Economic and Financial Rationale for a Regional Multilateral Bank for the Middle East and North Africa 199928

Author(s) Wafik Grais , Lorenzo Savorelli

Abstract: This paper overviews and analyzes Egypt's service sector, its commitments under the General Agreement on Trade in Services (GATS) and the country's main service liberalization policies. The paper compares Egypt's GATS commitments to those of other developing countries. It argues that the pattern of public sector dominance in services has created government monopolies where privatization and anti-trust issues slow down the progress of liberalization and further GATS commitments. It then analyzes the literature and the experiences of other countries in order to highlight potential gains from service liberalization in Egypt. The paper recommends

that service liberalization be a goal in its own right and that emphasis should be placed on more competitive sectors where the risk of market power is limited.

Title Case Study of Egypt's Service Liberalization, Service Barriers and Implementation of the GATS Agreement 199940

Author(s)

Abstract: The MENA region has recently witnessed significant economic and financial development. Yet its trade and capital flows remain marginal on a global level, and risk perceptions and institutional underdevelopment are still a powerful obstacle to an increased access to capital markets, a better mobilization of savings and of long term finance for investment, especially large infrastructure projects. The paper argues that the creation of a regional multilateral bank for MENA could contribute to ease some of these constraints and to provide a powerful catalyst for increased capital flows, and that the recent attempt to turn this idea into reality, the MENABANK, currently on a shelf, deserves to be revamped.

Title *Wage Inequality by Education and Gender in MENA: Contrasting the Egyptian and Moroccan Experiences in the 1990s*. Paper presented to the 12th annual conference of the Economic Research Forum, Cairo: 18-21 December 2005

Author(s) Mona Said and Fatma El-Hamidi

Abstract: The 1990s has been a decade of considerable socioeconomic change in the MENA region characterized by adoption of economic liberalization policies and a declining role of the state as an employer in the labor market. This paper explores some of the equity implications of this transition by examining changes in the distribution of returns to education and gender wage premia in the Egypt and Morocco market using joint models of educational choice and wage determination. Selectivity corrected returns to different levels of education indicate that a reduction in the role of the public sector lead to lower returns in the private sector and falling returns over time. Only at the university level, are returns higher in the private sector in Egypt indicating that employers place relatively little value on basic and secondary education. In Morocco there is some evidence of higher returns in the private sector by the end of the 1990, which might be indicative of better matching of educational credentials and productivity differences. Oaxaca-Blinder wages-differentials decompositions of sector and gender wage gap for Egypt and Morocco indicate that the unexplained component in public wage premia and gender gaps have declined in Egypt, but substantially increased in Morocco over the 1990s. Overall, economic liberalization and public sector retrenchment which were much more comprehensive in Morocco appear to have had a more dislocating effect also on labor market wage outcomes. The

paper ends with some policy implications and suggests future directions of research in the areas of educational and public sector reform and policies to improve access of women to the private sectors in MENA.

Title *The Effects of Structural Adjustment on Youth Unemployment in Egypt.* Paper presented to the 12th annual conference of the Economic Research Forum, Cairo: 18-21 December 2005

Author(s) Fatma El-Hamidi and Jackline Wahba

Abstract: The persistence of high unemployment rates in the recent years has become a major problem in many MENA countries, especially in Egypt. The aim of this paper is to examine the effects of economic reforms in Egypt on youth unemployment. The paper investigates the extent to which reforms in the early 1990s have led to higher unemployment among the youth. The paper presents new evidence on the incidence of youth unemployment in Egypt before and after the structural adjustment period, in 1988 and 1998. In addition, it examines the determinants of unemployment duration and the probability of exiting unemployment by estimating hazard functions for exits to public sector and private sector employment. The main findings of the paper suggest that the incidence of youth unemployment has increased as a result of reforms. In addition, the empirical evidence suggests that youth unemployment is mostly voluntary unemployment: queuing for public sector jobs although the private sector has been very slow in absorbing new workers.

Title *Estimating Economic Growth in the Middle East since 1820.* Paper presented to the 12th annual conference of the Economic Research Forum, Cairo: 18-21 December 2005

Author(s) Sevket Pamuk

Abstract: During the last two decades economic historians have paid a good deal of attention to the estimation of the per capita real product of different countries and the analysis of what happened to the gap between the leaders and followers since the Industrial Revolution. In addition, recent empirical work associated with the growth theory literature and supported by the availability of a new set of international comparative data constructed as an outcome of the International Comparison Project focused on the period after 1950. The central questions for both groups have been whether low income countries or regions tend to grow faster than high income countries or regions and whether there are automatic forces that lead to convergence over time in the levels of per capita product and income. Some generally accepted trends are emerging from the recent literature. The aim of the present paper is to focus on one region the study of whose modern economic growth performance has been conspicuously lagging behind. No country in the Middle East (Turkey,

Syria, Jordan, Lebanon, Palestine-Israel, Iraq, Iran, Egypt) had an official income accounting system in place before World War I. The national income accounting systems were established either during the Interwar period or mostly after 1950. I bring together evidence and data from a variety of sources to provide, for the first time, a reliable overview of the growth record of the Middle East from 1820 until the present and then insert these trends into the comparative framework outlined above. For the period after 1950, I will accept the purchasing power parity adjusted GDP per capita series for the individual countries given in 1990 international U.S. dollars, as presented by Angus Maddison in his most recent 2003 volume.

Title *Database of sources for data in the MENA region*

Author(s) Economic Research Forum, Cairo Egypt. **Download Database.**
www.erf.org.eg

Abstract: Access to quality data is the backbone of every serious and valuable research. On one hand, researchers of the MENA region are suffering from lack of access to data. On the other, some good quality data is available, but not well disseminated. In an attempt to fill in this gap and with the support of GDN Data Initiative, ERF has launched a survey of data sources in the MENA region. The database was constructed based on the responses of ERF research network on the data sources they use in their research. The objective of this database is to highlight the sources of data that are available on the region from the region or outside (excluding well-known data of international organizations, such as the World bank, IMF, etc...). This database is specialty relevant to Egypt and Sudan. For inquiries and comments contact: (Ms. Maryse Louis Senior Economic and Data Analyst. (Ms. Maryse Louis Senior Economic and Data Analyst Email: mlouis@erf.org.eg

Title *Informal sector employment in Egypt, ILO/UNDP Geneva. 1980*

Author(s) Abdel Fakil, M.

Abstract: This study tried to estimate the size of the informal labor force based on several statistical data sets, namely, the Establishment Census 1972, the Census of Industrial Production 1966/67, the Population Census 1976, the Survey of Small Producers 1974. The Study classified the informal workers into two groups: the workers in handicrafts, trade and services; and the unemployed who undertake various odd jobs.

Title *The Hidden Economy in Egypt: A Social Accounting Matrix Approach).*
MA Thesis, Dept. of Economics, American University in Cairo, 1983

Author(s) Diab, J.

Abstract: The emphasis in this study was to try and establish the main sources of

illegal (hidden) income the researcher depended on several data sources such as the Public Security Authority, the Division for Tax Evasion, the Division of Registered Properties and the report of the District Attorney. The research provided an estimate of the illegal sources of income, though it mentioned that the real illegal income is certainly far higher than the estimated.

Title *Employment and Development in six poor Arab states: Syria, Jordan, Sudan, South Yemen, Egypt and North Yemen*¹⁷. Journal of Middle East Studies, 14, 1982: .35:51

Author(s) Birks, J.S. and Sinclair, C.A.

Abstract: This study tried to estimate the size of the informal sector in Egypt based on the Population and establishment Census 1976. The analysis concluded that the informal sector represented nearly 7% of the total enterprises in Egypt.

Title *Egypt's Informal Sector: Engine of Growth?* Paper presented to MESA conference, Portland, Oregon.

Author(s) Handoussa, H. and Potter,

Abstract: The study attempted to evaluate the development, which occurred in the number and weight significance of those working in the informal sector (excluding the agricultural sector) through the utilisation of data available in the Population Census (1976, 1986), the Employment and the Wages. The study also assessed the development in the number of small size establishments and the workers therein during the years 1976, 1986, based on the data in the Establishments Census. Finally, the study attempted to interpret the reasons for the evident contradiction in the numbers of workers in the informal sector using the previous two methods.

Title *Small enterprises and Problems of Industrial Location and Regional Development in Egypt, in conference on "Local Development in Egypt: Present Problems and Future Aspirations*, Mansoura University, December 1986 pp:1:20.

Author(s) Hafez

Abstract: In his study the researcher looked into the historical development of small enterprises in Egypt and how the process of change was affected by the phases of prosperity or decay that affected the economic and social environment in the economy.

Title *Small Industries in Egypt: An Exploration of the Economics of Small*

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Furniture Producers, International Journal of Middle East Studies, 14, 1982: 159:171.

Author(s) Mead

Abstract: He conducted field research covering a sample of establishments engaged in the manufacturing of furniture. The questionnaire was applied to 25 establishments. He also held interviews with the workers in 50 establishments in Cairo and Alexandria. The objective of the study was to compare the small and large units competing with them from a number of different angles: like capital, size of labour, specialization, incomes, the contribution of the different factors of production and the links between small and larger enterprises. Units having less than 10 workers were considered of being small sized.

Title *The Informal Sector in an Intermediate City: A Case in Egypt), in Economic Development and Cultural Change, 34, 1985: 263:277*

Author(s) Hoffman

Abstract: He conducted a study about the non-organized sector in the city of Fayoum in cooperation with the National Planning Institute. The research combined between the characteristics of both a theoretical and field study. First, an analysis took place for the published official data regarding the study area, it was followed by a field study that covered 120 small size establishments in the city of Fayoum. The study aimed at depicting the present and future of the informal sector its achievements, and potential in the labour market especially regarding its ability to create new job opportunities.

Title *Employment in Small Scale Manufacturing in Egypt*, British Society for Middle Eastern Studies, Bulletin 1989, Vol.14, No.2.

Author(s) Meyer

Abstract: Meyer carried out a survey of the small size establishments operating in the manufacturing industry in the city of Cairo. He chose six quarters characterized by a relatively high concentration ratio of workshops. During the period extending from September 1985 to April 1986, he held interviews with 4749 work proprietor and workers in 1149 enterprise. He did not clearly define the small size establishment although he indicated that it is characterized by a low average number of workers, a labour intensive production operation and the low value of the capital utilized in the purchase of machines and equipment.

Title *The Informal Sector in Maarouf*, Cairo: National Center of Social and

Criminal Studies, 1994. (in Arabic).

Author(s) El-Mahdi, A. and Mashhour, A.

Abstract: This study was regarded as a pilot study for a larger future research project that would encompass a large sample for Cairo. The intention was to try and test the research tools such as the listing operations, the definition and its complexities, the questionnaire forms which were applied to both the localized and non-localized economic units. It was also intended as an attempt to identify the characteristics of the entrepreneurs and the enterprises working in the area.... One of the main results was intensity of the informal enterprises in the area, though it is considered one of the most central quarters in the capital. It was thus revealed that 35% of the economic units were of informal nature. The second result was pertaining the definition, which proved first to be applicable and second to be indicative of the degrees of informality that existed or co-existed in the area.

Title *The Small Industries Complex in the 10th of Ramadan City*, Cairo: Friedrich Ebert Stiftung, 1996.

Author(s) El-Mahdi, A. and H. ElSaid

Abstract: This study was conducted at the demand of the Association of small and medium investors of the Tenth of Ramadan City. It covered the whole complex of small enterprises, which included 54 enterprises. The aim of the study was to try and identify the community of the members of the Association and their basic characteristics. There was also interest in knowing the kind of problems that were encountered by the small entrepreneurs, which could be helpful in future policy recommendations.

Title *Small Entrepreneurs in the Greater Cairo Community*, Cairo: Social Research Center, American University in Cairo, 1999.

Author(s) El-Mahdi, A and Powell, K.

Abstract: This study was conducted in May 1998. It was part of a household sample survey that covered Greater Cairo. One of the main goals of the study was to analyse the differentials between formal and informal enterprises and between male and female entrepreneurs. The study covered 3300 households and 577 economic units, which belonged to the members of the household.

Title (1993) *The Unorganised Economic Sector: Definitions and Main*

Characteristics, Cairo: CAPMAS, 1993.

Author(s) Rizk, S.

Abstract: The Informal Sector was split in two parts: The First part of the study is of theoretical nature, covering the features of the problem understudy, the definition of the non-organized sector, the study assumptions and the study approach. Next, a theoretical study was undertaken to analyse the available data, which give some indicators regarding the informal sector, and lastly, the previous studies concerning the sector were reviewed. The first part aimed to understand the main characteristics and capabilities of the sector and assessing the missing or unavailable data so that it may be completed through the field survey. As for the second part of the report, it was comprised of a field study. It included a field work questionnaire having 50 questions; the sample size reached 5000 cases with nearly 1000 cases (establishment) in each of the governorates of Cairo, Alexandria, Damietta, Assuit and Guiza. The economic units under study represented the study unit, whether it was a localised unit where work is conducted, or whether it was a non-localized units.

Title *The Absorption Capacity of the Informal Sector*, in Assaad, R. (Ed.), Cairo: The Egyptian Labor Market in an Era of Reform, the American University press, Economic Research Forum Edition, 2002.

Author(s) El-Mahdi, A.

Abstract: This study was part of a household sample survey that was undertaken in October 1998. ELMS 98 included a sample of households (4800HH). The ELMS98 study included three modules one of them was on the small households' enterprises. Whenever any of the members of the HH proved to be the owner of a small enterprise (in legal terms such as a sole-proprietorship or a partnership) he was asked to answer the special "Enterprise" questionnaire. As a result, data for 1614 enterprises were collected and split in a further step into formal and informal economic units.

Title *Survey of Small Enterprises and Handicrafts (SSEH)*, Cairo: 1996

Author(s) CAPMAS & Social Fund for Development

Abstract: This survey was conducted upon the request of the SFD with the aim of establishment of a wide and accurate database of small enterprises (less than 10 workers) that are working in manufacturing, maintenance and repair activities. The database would thus be useful in getting information on several pertinent variables such as:

- workers and wage levels
- intermediate inputs of production (goods or services)
- other expenditures
- production, sales and exports

- unutilized capacities
- techniques of production (manual, semi-automatic, automated)
- marketing and related problems
- expansion possibilities
- invested capital (fixed and variable)
- sources of finance
- loans if available and reasons for not getting them if not available
- other information

The survey used the data of the EC1996 records and was conducted during April 1997-July 1997. It revealed that the number of establishments was 344556. The establishments employing 2-4 workers represented 56% of the total sample. The manufacturing establishments accounted for 72% of the total number. The most prevalent manufacturing activities- in terms of the total number of workers- were furniture and ready-made clothes manufacturing. As to the largest enterprises in terms of average employment data shows that the chemical industry was the leader in this context.

Title *the Economic Censuses 1997, and 2001*. Cairo: CAPMAS, 1997, 2001.

Author(s) CAPMAS

Abstract: The census was conducted in 1997 and 2001 based on the framework provided by the Establishments Census. It covered all establishments, whether, governmental, public sector, or private (organized and unorganized) sector as well as the investment companies. A complete survey resulted in getting information on 1.5 mill establishments, which were working in 24 main economic activities including agricultural ones. The survey used 7 specialized questionnaire forms.

The information provided by this census include the following variables:

- Number of establishments in every economic activity
- Net fixed assets
- Intermediary inputs, wages, social insurance and depreciation allowance
- Total value of production and revenues
- Net value of production and revenues

The information available in this census is valuable. However, due to the fact that the names of the entrepreneurs and their addresses were not included as part of the data entered into the data set, it would be difficult and time consuming to draw a sample of enterprises out of this data set.

1.3 Human Settlement

Title: Residential Segregation by Education in Twelve Egyptian Cities: 1960-1967. Cairo: Cairo demographic Center Annual Seminar. Cairo Demographic Center. (1984). 23 p.
Availability: Hard copy

Author(s) Abdallah, A.A.

Abstract This study analyzes the relationship between the educational level of individuals and their location of residence in twelve Egyptian cities including Greater Cairo, Alexandria, Port Said, Ismailia, Suez, Mansour, Tanta, Zaqaq, Shebeen El Kom, Suhaj, Mahala El Kubra, and Damanhour. Using data derived from the 1960 and 1976 population censuses, and depending on measures of association the study shows the presence of a relationship between education and residential segregation as well as other variables such as population size, growth and the proportional share of professional and upper administrative jobs within the above cities.

Title: The residential Segregation of Occupational Groups in Some Egyptian Cities. Cairo Demographic Center Annual Seminar. Cairo, Cairo demographic Center. (1983).

Availability: Hard Copy

Author(s) Abdallah, A.A.

Abstract This study of twelve Egyptian cities compares occupational groups tendency to cluster in certain quarters of the cities with which it is concerned. Using data from the 1960 and 1976 censuses it shows that professionals and upper echelons of administrators have the strongest tendency to insulate themselves in certain residential quarters while those involved in service employment have the weakest tendency to do the same.

Title: 1970's Urbanization in Egypt and the Capitalist World Economy: the Case of the City of Cairo. Paper presented to the conference on "The New International Division of Labor and the Middle East, Anthropologisch- Sociologisch Centrum, Universiteit van Amesterdam; January, 28-30, 1988. p 22.

Author(s) Auda, G.

Abstract

Title: . (1988). Cairo. In Dogan, M. and Kasarda, J. (Eds.). The Metropolitan Era. Beverly Hills, Sage. (1988). p 32.

Availability: Hard copy

Author(s) Khalifa, A. and Mohieddin, M

Abstract The paper traces the growth of Cairo over a century taking into account the role played by both the internal dynamics within Egypt and its changing status

within the world system and their impact on its changing occupational structure. It breaks the city into five different sub-cities connecting the rise of each to certain ruler of the country and documents the effects of the above factors on residential mobility within the city and the success of the urban middle and upper middle classes to insulate their residential quarters from being invaded by the poor. The paper also discusses some of the major problems common to all city dwellers and takes a hard look at different social, economic, and political scenarios of the future of the city.

Title: Housing the Poor in Egypt: State Policies, Strategies of the Poor and the Need for New Policy. Table Ronde organizee par L'institute de Recherche sur le Maghreb Contemporain (Tunis), Centre for Urban and Community Studies (university of Toronto), and Ford Foundation, (Cairo). Tunis, 15-16 July, 1994

Author(s) Mohieddin, M.

Abstract The paper distinguishes between various forms of informal housing erected by the poor and shows how they consolidate their efforts to gain concessions from political candidates and force the bureaucracy to submit to the status quo. Behind the apparent spontaneity is a deep rationality of ordered tactics and strategies used by the poor to establish their own communities. The spread of the phenomenon is attributed to the state policies opting for responding to the housing demands of the middle and upper classes. The paper ends by suggesting certain policy measures to resolve the housing crisis in the cities of Egypt.

Title: Who is afraid of *ashwaiyyat*? Urban change and politics in Egypt. Environment & Urbanization. Vol. 12 No 2 October 2000 185. p. 15

Author(s) Bayat and Denis, E.

Abstract Drawing on the 1996 census, this paper challenges the orthodox view that rural migrants are causing a rapid expansion of Egyptian cities and have created "cities of peasants". It describes how most major cities have ceased to be canters for rural in-migration and looks at the spatial diffusion of urban development through the growth of agro-towns, urban villages and new industrial towns. Many settlements officially classified as "rural" are growing rapidly and acquiring urban characteristics. The paper also questions commonly held assumptions that the large informal settlements in which much of the urban population live are "abnormal" and associated with social deviance and political violence.

Title: Application of GIS to describe historical urban development of Kharga city, Egypt.

Author(s) Mahrous, A. M. S.

Abstract This paper aims to support the master plan of Kharga City by defining the

main direction growth of Kharga City by reading the old and recent historical urban growth. The main growth direction of Kharga City is the northward – southward, Kharga City grown around two centers (the agriculture land and the archaeological monuments). During the twentieth century the area of houses land uses is nearly equalize the area of streets land uses. Since 1970 until now, the extension development of agriculture and palm Standstill and the Kharga oasis has begun urbanized since 1970. Urban planning management of Kharga City doesn't obey any planning principles where land parcels specialization process can be considered a random method of land distribution. Thus the paper recommends strongly that the local government convey the urban planning process to the specialists such as National Planning institute or the universities of planning.

Title: La Croissance de la Population et le Changement Structural A Alexandrie: 1805-1986. Villes et Urbanisation en Mediterranee: Le Cas du Maroc Mediterranee. Actes de la Sixieme Rencontre de Tetouan. Groupment D'Etudes et De Recgerches Sur la Mediterranee en Collaboration Avec le Forum Des Architectes. Octobre, 29-30, 1995.

Author(s) Mohieddin, M.

Abstract This paper follows the trajectory of development of the population of Alexandria over almost two centuries. It argues that that the development of the modern city responded to the necessities of moving armed forces from east to west and to the influx of European immigrants from the latter part of the 19th century onwards. The increasing size of the population and its heterogeneous structure led to considerable spatial inequality within the city and its increasing importance vis-à-vis other neighboring cities such as Rosetta leading to its unquestionable dominance over the north western urban scene of Egypt. Though more Egyptian today than during the colonial period the city is marked by a high degree of residential segregation and inequality.

Title: Local Practices in Urban Management in Secondary Cities in Egypt: The case of Belbeis. A research case study sponsored by the TRHUD project, A Netherlands-Egypt Cooperation project. Rotterdam: Institute of Housing and Urban Studies. (2002). p. 101, Incl bibl.

Author(s) Sirry, A.

Abstract The aim of this research is to examine and critically analyze the urban management and planning challenges that face public officials in secondary cities in Egypt today and the opportunities that lie ahead of them. The research attempts to answer three questions: what functions do national, regional, and local institutions assume in urban management and planning activities in belbies, and what challenges do they face? How are serviced land, housing and infrastructure services provided in Belbies? How are local revenues generated in Belbies?? And how are expenditures and capital investments decided and

undertaken? The research emphasizes numerous intractable problems and bottlenecks facing public officials in belbies and other secondary cities in Egypt as they attempt to plan for future development. The key issues include both institutional and capacity problems hindering proper urban management. It further stresses on conflict between the different governmental levels and agencies with respect to decision making, as well as the fact that the decentralization process as implemented in Egypt has devolved substantial powers to the governorates but very little to lower levels of government. In sum, belbies appears to be a case that highlights the major challenges encountered by public officials in secondary cities in Egypt, especially the limited authority and resources at their disposal.

1.4 Education

Title *Big Spending, Small Returns: The Paradox of Human Resource Development in the Middle East.* Cairo: ECES WP No. 2. June 1996.

Author(s) Nemat Shafik

Abstract The Arab countries spend more public resources on education than any region in the world, but the outcome in terms of human resource development is one of the poorest, especially relative to their income level. This paper explores four possible hypotheses to explain this paradox: (i) social indicators in the oil exporters are catching up with sharp increases in wealth; (ii) spending in the social sectors is inefficient; (iii) market distortions do not reward appropriate human capital accumulation; and (iv) under investment in females has lowered returns to social expenditures.

Title *The Paradox of Education and Unemployment in Egypt.* Cairo: ECES WP No. 67. March 2002.

Author(s) Ahmed Galal

Abstract: Although Egypt has made substantial progress with respect to access to education, the education system is not providing markets with the quantity and quality of educated individuals most in demand. This paper addresses this paradox as an economics phenomenon and suggests that education reform should go beyond building schools, training teachers and improving curriculum. The proposed approach first deals with aligning incentives of students, teachers, parents, bureaucrats and private sector education providers. Secondly, it involves market reform to expand the demand for labor. The third and final set of reforms is aimed at corrections of market failure to ensure efficient delivery of education equitably.

Title *Child Schooling and Child Labor: Evidence from Egypt,*

Author(s) Jackline Wahba

Abstract: In this paper, the determinants of school participation and child labor in Egypt of 6 - 14 year old children are studied at the household level, using micro data from the October 1988 LFSS. Three main logit regression analyses were conducted: the likelihood of a child being enrolled in school, the likelihood of a child working (waged and non-waged) and the likelihood of a child working for paid employment. The main results of these various analyses can be summarized as follows. Child labor increases with age, while school participation decreases with age. Girls are less likely to go to school and to work compared to boys. Family educational attainment is an important determinant of school participation and child labor. The likelihood of school participation increases with the educational attainment of the family. The low level of family education is identified as one of the most important factors in determining child labor. Rural children are more likely to work and less likely to go to school compared to urban children.

Title *Social Expenditure and the Poor in Egypt.* Cairo: ECES WP No. 89. November 2003.

Author(s) Ahmed Galal

Abstract: The purpose of this paper is threefold: (i) to assess the effectiveness, efficiency and equity of public expenditure on education, health and food subsidy programs in Egypt, (ii) to broadly analyze reform approaches of these sectors, and (iii) to make policy recommendations for Egypt accordingly. The paper shows that the Egyptian government is committed to providing education and health services and to protecting the poor. However, it argues that on-going reform efforts follow the least rewarding approach. In particular, the current approach relies heavily on increasing and/or improving the quality of inputs rather than on aligning incentives with desired outcomes and enhancing accountability. A shift in approach is therefore suggested, along with concrete measures to improve incentives, empower beneficiaries, and strengthen accountability.

Title *Egypt - Higher Education Enhancement Project: Document Type: Project Appraisal Document.* Wash. D.C. The World Bank. Report No. 23332. 2002.

Author(s) N.A.

Abstract: The Higher Education Enhancement Project aims at laying the foundation for improving the quality of the higher education system in Egypt, through legislative reform, institutional restructuring, and establishment of independent quality assurance mechanisms, and monitoring systems. The first component will support the Government's efforts to restructure system governance, and management, so that conditions are in place to support improved sector efficiency, and quality. Specifically, the component includes reforming legislation governing higher education; rationalizing funding allocation practices - financing international technical assistance for resource allocation across higher institutions; establishing a national quality assurance council, guided by technical assistance in establishing the performance standards for an accredited system of higher education. Management training and capacity building will be financed, as will the establishment of an integrated management information system, and of a project fund for higher education institutions to improve teaching/learning abilities. The second component will improve the quality, and relevance of university education, through the establishment of information technology (IT) integrated computer, and network infrastructure, and finance in-service training to develop competencies in the application of computer technology, particularly in teaching methodologies. Finally, the third component will improve the quality, and relevance of mid-level technical education, by consolidating middle technical institutes into technical colleges, designing relevant curriculum, and training instruction, and, strengthening academic administration and management.

Title *Intra-household Resource Allocation in Egypt: Does Women's Empowerment Lead to Greater Investments in Children?* ERF 11th Annual Conference. Beirut: 14-16 December, 2005.

Author(s) Rania Roushdy

Abstract: This paper presents new empirical evidence from Egypt on the existence of intra-household allocation bias. We examine the effects of the women's status within the household on investment in children human capital—focusing specifically on children's schooling and nutrition. Special attention is paid to examine how the welfare of children living in an empowered female household is compared to their peers who live in low women's status households, and whether parents have identical preferences towards sons and daughters. The results confirm that empowered women are more able to make positive investments in their children. The influence of women's status may operate differently for boys and girls, and may differently affect children's educational outcome than their nutritional status. Also, we find that parents do not always have identical preferences towards sons and daughters.

Title *Schooling Investments and Gender Gap in Schooling in the MENA*

Countries: An International Perspective. Cairo: ERF Working Papers No.

Author(s) Aysit Tansel ,Ayadim Deniz Gungor

Abstract: Results from this cross-country study indicate that there are no simple patterns in how investment in schooling in the MENA countries differs from international experience. The regression results for 1965 and for 1994 show a wide diversity in enrollments at the primary and secondary school levels in comparison with international experience. Some MENA countries, such as Egypt and Turkey, are found to be relatively high achievers at the basic levels of education in 1994. Others, such as Morocco and Saudi Arabia, are found to be relatively low achievers. However, the MENA countries as a group tended to have relatively high gender gaps at the primary and secondary levels in both years. In 1994, Egypt, Iran, Morocco, Oman and Turkey had gender gaps that were significantly high in comparison with international experience. These results were found to be sensitive to whether there was control for literacy in addition to per capita income. With control for literacy, the performance of the low-literacy MENA countries tended to improve for total enrollments and for the gender gap at each school level. With control for literacy, however, individual countries within the MENA group continued to show widely diverse performances. Between 1965 and 1994, countries like Egypt had some of the largest relative increases in schooling investments, while countries like Algeria had some of the smallest relative increases in schooling investments.

Title *Equity in Educational Expenditures in The Middle East & North Africa.*
Cairo: ERF Working Papers No.

Author(s) A. Tansel & A. Kazemi

Abstract: Educational policies affect access to schooling, and consequently, determine jobs and income, both of which in turn affect the distribution of income and wealth in the society. Therefore an equitable distribution of educational benefits is important. This study is concerned with equity in the distribution of benefits to the people who are being educated at different levels of education. These evaluations are performed using the figures for public spending for people passing through the school system at different levels. Familiar Gini coefficients are computed to evaluate the equity in the distribution of benefits by level of study. Comparable data are used to carry out computations for the Middle East and North African countries and for major regions of the world. Computations are done for 1980 and 1990 to observe changes over time. Individual MENA countries are evaluated from a regional perspective, compared to other regions of the world, and the change over the decade is evaluated. The results suggest that the tertiary level unit costs are substantially higher than at other levels, and there is substantial inequity in the distribution of public benefits among individuals exiting the educational system with different educational attainments.

Title *Empowering Women, Developing Society: Female Education in the Middle East and North Africa.* Population Reference Bureau. (November 2003).

Author(s) Farzaneh Roudi-Fahimi and Valentine M. Moghadam.

Abstract: Education is a key part of strategies to improve individuals' well-being and societies' economic and social development. In the Middle East and North Africa (MENA) (countries and territories included in the Middle East and North Africa as defined here are listed in Table 1), access to education has improved dramatically over the past few decades, and there have been a number of encouraging trends in girls' and women's education (see Figure 1). Primary school enrollment is high or universal in most MENA countries, and gender gaps in secondary school enrollment have already disappeared in several countries. Women in MENA countries are also more likely to enroll in universities than they were in the past.

Also available in PDF (**PDF: 144KB**) Also available in Arabic (**PDF: 649KB**)

Title *Private and Group Tutoring in Egypt: Where is the Gender Inequality?* Paper presented to the 11th Annual Conference of the Economic Research Forum for the Arab Countries Iran and Turkey. Beirut: 14-16 Dec. 2004.

Author(s) Assaad, R. and Elbadawy, A.

Abstract: The purpose of this paper is to gain an understanding of the nature and determinants of both private and group tutoring in Egypt in order to investigate whether gender bias exists in tutoring decisions, in particular with respect to whether or not to take private lessons and how much to spend on it. Tutoring gender gaps can possibly reflect general gender gaps in education. It is expected that if disparities are present in educational investments in general, it would even be more pronounced in more optional educational investments like that of receiving tutoring. The remaining of this paper is organized as follows. The second section provides theoretical explanations and evidence on gender bias. The third section reviews literature on tutoring. The fourth section discusses the empirical model followed. Section five presents the empirical results and preliminary findings.

Title Higher Education in Egypt. Policy Research Working Paper Series. WPS No. 862 Wash: D.C. The World Bank. 1992.

Author(s) Allan Richards

Abstract: Egypt's policy on higher education, the author argues, must take account of the realities of declining government budgets and employment and increasing reliance on the private sector, which must become more competitive internationally. Education in Egypt must increase Egyptians' ability to cope with economic disequilibria: to respond quickly and

effectively to changing technological and market opportunities. The Government of Egypt's strategy for achieving this goal is to stabilize the number of university students and raise the quality of instruction. This fundamentally sound strategy, pursued since the mid-1980s, has required considerable courage of policymakers, who are struggling to correct a longtime, inequitable misallocation of educational resources. The Nasser regime greatly expanded higher education and guaranteed jobs to university graduates. As a result of rapidly growing enrollment in the 1970s and 1980s, the quality of education seriously deteriorated. Classes are too big and resources too scarce for anything but professorial salaries, so learning amounts to little more than memorization and repetition. The system does not foster the development of synthesizing, problem-solving, or creative thinking abilities. And with tertiary institutions over-enrolled, academic success requires the use of tutors, whose fees are beyond the reach of students of modest means.

Title Running Head: Public Education in Egypt. Manuscript published on the internet. N.D. Pacific Lutheran University.

Author(s) Randa N. Shoeb

Abstract: This study analyzes the current system of public education in Egypt. The study examines the secular and non-secular public education school systems and assesses social factors that have a direct impact on the learning environment. It outlines the history of the public educational schooling system in Egypt that led the current system to take its recent form. The study evaluates the schooling structure, governance, and curriculum at the preparatory and secondary phases of education which puts in context the way the secular and non-secular systems of education affect society socially, politically, and economically. This study analyzes the aims of current reforms that sought to improve the learning of the individual, as well as improve the system and the country that managed it. The data for this study were collected from a variety of published literature on public education in Egypt.

Title The Structure of Social Disparities in Education. Policy Research Working Paper Series, WPS no. 2268. Wash. D. C.: The World Bank, January 2000.

Author(s) Deon Filmer

Abstract: Using internationally comparable household data sets (DHS), filmer investigates how gender and wealth interact to generate within country inequalities in educational enrollment and attainment. He carries out multivariate analysis to assess the partial relationship between educational outcomes and gender, wealth, household characteristics (including level of education of adults in the household), and community characteristics

(including the presence of schools in the community). He finds that women are at a great educational disadvantage in countries in South Asia, North Western and Central Africa. He also reveals that gender gaps are large in a subset of countries, but wealth gaps are large in almost all of the countries studied. Moreover, in some countries where there is a heavy female disadvantage in enrollment (Egypt, India, Morocco, Niger, and Pakistan), wealth interacts with gender to exacerbate the gap in educational outcomes. The education of adults in the household has a significant impact on the enrollment of children in all the countries studied, even after controlling for wealth. The effect of the education level of adult females is larger than that of their male counterparts in some, but not all, of the countries studied. Finally, the presence of primary and secondary school in the community has a significant relationship with enrollment in some countries only (notably in Central and Western Africa). The relationship appears not to systematically differ by children's gender. .

Title The Academic Profession in Egypt

Author(s) Mohamed M. Mohieddin

Abstract:

Title Cairo University and the Making of Modern Egypt. Cairo: The American University in Cairo Press.

Author(s) Malcolm Reid.

Abstract:

Title: *Population and Education Prospects in the Arab Mediterranean Region.* Paper presented at the workshop on "Population Challenges in the Middle East & North Africa: Towards the Twenty First Century" Semiramis Intercontinental Hotel, Cairo, 2-4 November, 1998. Economic Research Forum for the Arab Countries, Iran and Turkey.
Availability: Downloadable from ERF.

Author(s) Anne Goujon

Abstract This report presents the main results of a study on future demographic and education trends in seven areas of the Arab Mediterranean region: Egypt, Jordan, Lebanon, Morocco, Sudan, Syria, and the West Bank and Gaza Strip. The sensitivity of these areas to future population prospects is high. This study provides interesting insights into the demography of these areas, especially with regard to the momentum of population growth and education levels.

Title: *Human Capital Accumulation and Development: Arab Countries at the*

Close of the 20th Century. Paper presented at the workshop on "Population Challenges in the Middle East & North Africa: Towards the Twenty First Century" Semiramis Intercontinental Hotel, Cairo, 2-4 November, 1998. Economic Research Forum for the Arab Countries, Iran and Turkey.
Availability: Downloadable from ERF

Author(s) Nader Fergany

Abstract The paper studies human capital accumulation and its link to development in Arab countries. It is, however pointed out that a thorough treatment of such an issue is handicapped by the application of inappropriate theoretical frameworks as well as the dearth of good data. Although Arab countries have made major strides in spreading education among the young, educational achievement is still limited. On the quantitative level, three factors accounting for this lack of achievement are considered: persistence of illiteracy, less than universal access to elementary education, and low enrolment in higher stages of education. Noting that available evidence is limited, the paper finds quality of education to be the most crucial dimension of the crisis of education in Arab countries. Expenditure on education is another is another critical element. The paper argues that correct assessment of return on expenditure in terms of educational attainment requires defining sensitive indicators as well as keeping in mind that it is cumulative expenditure on education that should be compared to educational stock. The study provides cross-sectional evidence linking MYS, or EYS (effective years of schooling- a function of MYS and expenditure on education), to per capita GDP and conveys the message that proxies of human capital accumulation are crucial determinants of economic development. On the basis of an analysis of return to education in Egypt, and the role of higher order skills in development in less developed countries in general, the paper argues in support of higher education in Arab countries.

1.5 Human and Animal Health

Title: *Schistosoma mansoni in the Nile Delta, Egypt. A large scale epidemiological study in Kafr El Sheikh Governorate*. Trop Geogr Med. 1995; 47(6):259-65.

Author(s) Barakat R, Farghaly A, el Masry AG, elSayed MK, Husein MH, Miller FD. High Institute of Public Health, Alexandria University, Egypt.

Abstract This is an early descriptive report of the 'Epidemiology 123' project in Egypt which makes use of large probability sampling methods. These results focus on *Schistosoma mansoni* infection in the northern Nile Delta Governorate of Kafr El Sheikh. A probability sample of 18,777 persons, representing the rural population of the entire Governorate, was drawn. The sample was designed not to exclude villages based on location or presence of health care facilities and to include representation of the smaller ezbas or hamlets. The objective was to obtain detailed estimates on age and sex specific patterns of *S. mansoni* infection, and to provide a baseline for prospective studies. Stool specimens

were examined by the Kato method. The estimated prevalence of *S. monsoni* infection in the rural population was 39.3% (SE +/- 3.3) in 44 villages and ezbas after weighing for the effects of the sample design. The estimated geometric mean egg count per gram stool (GMEC) was 72.9 (SE +/- 7.3). Prevalence and GMEC varied considerably by village and ezba, with ezbas having a significantly higher prevalence. Villages and ezba specific prevalence was strongly associated with GMEC ($r^2 = 0.61$, $p < 0.001$). The prevalence of *S. mansoni* infection increased by age to 55.4% (SE +/- 3.2) at age 16, without significant change in the adult ages. There was no gender difference until age six, after which males were consistently higher until middle age, when the differences converged. The age and sex specific pattern of GMEC varied widely, however, when the GMEC data were collapsed into five year age groups, GMEC peaked at 81.5 (SE / + - 12.1) epg in the 10 to 14 year age group. These estimates provide the basis for evaluating control measures for reducing prevalence, intensity of infection, and transmission.

Title: *Hepatitis c and cirrhotic liver disease in the Nile delta of Egypt: a community-based study.* Am J Trop Med Hyg. 2001 Mar-Apr; 64(3-4):147-53.

Author(s) Darwish MA, Faris R, Darwish N, Shouman A, Gadallah M, El-Sharkawy MS, Edelman R, Grumbach K, Rao MR, Clemens JD.

Abstract Residents of Egypt's Nile river delta have among the world's highest seroprevalence of hepatitis C virus (HCV) infection. To assess the impact of HCV on chronic liver disease, we studied the association between HCV, other hepatitis viruses, and cirrhotic liver disease in a cross-sectional, community-based survey of 801 persons aged ≥ 10 years living in a semi-urban, Nile delta village. Residents were systematically sampled using questionnaires, physical examination, abdominal ultrasonography and serologically for antibodies to HCV (confirmed by a third-generation immunoblot assay) and to hepatitis A virus (HAV), hepatitis B virus (HBV), and hepatitis E virus (HEV). The seroprevalence of HCV increased with age from 19% in persons 10-19 years old to about 60% in persons 30 years and older. Although no practices that might facilitate HCV transmission were discovered, the seroprevalence of HCV was significantly associated with remote (> 1 year) histories of schistosomiasis. Sonographic evidence of cirrhosis was present in 3% (95% CI: 1%, 4%) of the population (0.7% of persons under 30 years of age and in 5% of older persons), and was significantly associated with HCV seroreactivity. Our findings are consistent with the hypothesis that past mass parenteral chemotherapy campaigns for schistosomiasis facilitated HCV transmission and that HCV may be a major cause of the high prevalence of liver cirrhosis in this Nile village.

Title: *The epidemiology of schistosomiasis in Egypt: Qalyubia Governorate.*
American Journal of Tropical Medicine and Hygiene, Vol. 62, 2 Suppl,
49-54.

Author(s) M Habib, F Abdel Aziz, F Gamil, and BL Cline

Abstract The primary objectives of this study, carried out in Qalyubia Governorate in Egypt (south-central Nile Delta), were to continue tracking historical trends of infection prevalence of *Schistosoma mansoni* and *S. haematobium*, determine whether satellites (ezbas) of mother villages differed significantly with respect to schistosomiasis transmission, and to assess schistosomiasis-induced morbidity on a population basis using ultrasonography. Our study revealed that *S. haematobium* has virtually disappeared from Qalyubia governorate, and that *S. mansoni* prevalence continues to decline slowly (17% in 1991 compared with 19% in 1990). The prevalence of intestinal schistosomiasis was actually higher in the mother villages than in the ezbas of the same villages, indicating that prevalence based on surveys of villages alone did not (at least for Qalyubia) cause underestimates of true prevalence. (A mother village is the large village in an area that includes hamlets or ezbas. In many areas, the infection rate in ezbas is significantly higher than in the larger central village.) Ultrasonographic studies revealed that less than 3% of the population had stage 2 or stage 3 periportal fibrosis, commonly associated with chronic schistosomiasis *mansoni*. This low level of morbidity was consistent with earlier data from Qalyubia, which also showed a low level of *S. mansoni*-induced morbidity in this governorate.

Title: *Animal ringworm in upper Egypt.* Sabouraudia. 1976 Mar; 14(1):33-6.

Author(s) Abou-Gabal M, El-Galil GA, El-Nor EA, El-Rehim DA.

Abstract One thousand nine hundred and twenty animals (cattle, buffalo and sheep) and 60 humans suspected of ringworm were investigated in Egypt. Clinical and mycological aspects of the disease are described. *Trichophyton verrucosum* was the commonest dermatophyte on all species examined. Only *T. mentagrophytes* was isolated once from soil in the region of the clinical cases.

Title: *Socioeconomic inequalities in child malnutrition in the developing world, Volume 1.* Policy Research Working Papers.WPS2874; Wash. D.C.: The World Bank

Author(s) Maroufi, Karim; [Wagstaff, Adam](#); Watanabe, Naoko;

Abstract Among the conclusions the authors reach about malnutrition rates, among different economic groups: 1) inequalities in malnutrition almost disfavor the poor; 2) it's not just that the poor have higher rates of malnutrition. The rate of malnutrition declines continuously with rising living standards; 3) the tendency

of poorer children to have higher rates of stunting, and underweight, is not due to chance, or sampling variability. Inequalities in stunting, and underweight, as measured by the concentration index, are statistically significant in almost countries; 4) inequalities in underweight tend to be larger than inequalities in stunting, which tend to be larger than inequalities in wasting; 5) in most cases, whatever the malnutrition indicator, differences in inequality between countries are not statistically significant; 6) even if attention is restricted to the cross-country differences in inequality that are statistically significant, interesting conclusions emerge, Egypt, and Vietnam have the most equal distributions of malnutrition, and Nicaragua, Peru, and, to a lesser extent, Morocco, have highly unequal distributions; 7) some countries (such as Egypt and Romania) do well in terms of both the average (the prevalence of malnutrition) and the distribution (equality). Others do badly on both counts. Peru, for example, has a higher average level of stunting than Egypt, and higher poor-non-poor inequality. But many countries do well on one count, and badly on the other. Brazil, for example, has a far lower (less than 20 percent) stunting rate overall, than Bangladesh (more than 50 percent), but has four times as much inequality (as measured by the concentration index); 8) use of an achievement index that captures both the average level, and the inequality of malnutrition, leads to some interesting rank reversals in the country league table. With stunting, for example, focusing on the achievement index moves Egypt (a low-inequality country) from sixth position to fourth, higher than Brazil and Russia (two countries with high inequality).

Title: *Risks and macroeconomic impacts of HIV/AIDS in the Middle East and North Africa: why waiting to intervene can be costly, Volume 1. Policy, Research working paper, no. WPS 2874.* Wash. D. C.: The World Bank/

Author(s) Robalino, David A.; Jenkins, Carol; El

Abstract The authors develop a model of optimal growth to assess the risks of an HIV/AIDS epidemic and the expected economic impact in nine countries in the Middle East and North Africa region-Algeria, Djibouti, Egypt, Iran, Jordan, Lebanon, Morocco, Tunisia, and Yemen. The model incorporates an HIV/AIDS diffusion component based on two transmission factors-sexual intercourse and exchange of infected needles among intravenous drug users. Given high levels of uncertainty on the model parameters that determine the dynamics of the epidemic and its economic impact, the authors explore large regions of the parameter space. The prevalence rates in year 2015 would be below 1 percent in 16 percent of the cases, while they would be above 3 percent in 50 percent of the cases. On average, GDP losses across countries for 2000-2025 could approximate 35 percent of today's GDP. In all countries it is possible to observe scenarios where losses surpass today's GDP. The authors quantify the impact of expanding condom use and access to clean needles for intravenous drug users. They show that these interventions act as an insurance policy that increases social welfare. They also show that delaying action for five years can cost, on average, the equivalent of six percentage points of

today's GDP.

Title: *A reappraisal of how oral rehydration therapy affected mortality in Egypt, Volume 1.* Policy Research working papers; no. WPS 1052. 2001. Wash.: D. C. The World Bank.

Author(s) Rashad, Hoda;

Abstract Oral rehydration therapy is the key low-cost child survival intervention used to deal with diarrheal illness in developing countries. The existence of a low-cost, highly efficacious technological fix (oral rehydration salts) for the life-threatening dehydration that accompanies diarrhea provided a strong rationale for making oral rehydration therapy a cornerstone of diarrheal disease control programs. The Egyptian oral rehydration therapy program has been quoted as having the most spectacular success in reducing infant and child mortality. But there is a need to differentiate between the efficacy of oral rehydration therapy in clinical settings and in community use. The National Control of Diarrheal Diseases Project (NCDDP) was launched in Egypt in 1983. A pilot program was followed by national promotion starting in February 1984. As early as 1985, opinions were being expressed about the favorable impact of NCDDP activities on child mortality. There is no doubt that the NCDDP greatly increased both awareness of the dangers of dehydration consequent upon diarrhea in children and knowledge of oral rehydration therapy. But survey data on the use of oral rehydration therapy during diarrheal episodes show such use to be far from universal (with use in fewer than 50 percent of episodes). Further, ethnographic studies show appropriate use, in terms of timing and quantity, to be the exception rather than the rule. The maximum theoretical effect of the NCDDP on child mortality would be to eliminate all deaths from diarrhea, a reduction of about 50 percent. The maximum effect that could realistically be expected is a reduction of less than 20 percent. Analysis of a time series of infant mortality from vital registration data indicates an abrupt, statistically-significant change in level in 1985 amounting to a once-off decline of about 15 percent. In the absence of other changes taking place at about the right time that might explain this drop, it is concluded that the NCDDP probably was responsible. Thus, although many of the claims made for the impact of the NCDDP on child mortality in Egypt appear to have been greatly exaggerated, it does seem likely, in the absence of alternative explanations, that the program significantly reduced infant mortality in the mid-1980s.

Title: *"Overview of Health Reform in the MENA Region"*. Paper presented at the workshop on "Population Challenges in the Middle East & North Africa: Towards the Twenty First Century" Semiramis Intercontinental Hotel, Cairo, 2-4 November, 1998. Economic Research Forum for the Arab Countries, Iran and Turkey.

Availability: Downloadable from ERF

Author(s) Maha El-Adawy & Karima Khalil

Abstract The health delivery system in many developing countries is facing major challenges, ranging from access to services, to the gap between the comprehensive goals of primary health care and the chronic lack of resources for their implementation. These issues are coinciding with a global as well as national realization of the necessity of a conceptual shift from an exclusive focus on population control to reproductive health, a broader set of services addressing women's actual health needs. In an attempt to illustrate some of the issues currently being grappled with, the first section of this paper describes the issue of health care financing in general and that in the MENA region in particular with examples from Jordan and Egypt, given the changing approach to primary health care over the last twenty years. The second explores the rationale for the inclusion of reproductive health services, with evidence from various cost-benefit studies. The third section describes a specific attempt to identify and introduce reproductive health services at the primary care level within the Egyptian primary health care infrastructure.

Title: *Making motherhood safer in Egypt.* Washington, D.C., Population Reference Bureau [PRB], 2004 Mar. [8] p. (MENA Policy Briefs)

Author(s) Khalil K; Roudi-Fahimi F

Abstract Fewer Egyptian women die of maternal causes today than they did 10 or 15 years ago, thanks in large part to the national safe motherhood program. Nevertheless, maternal mortality in Egypt is still relatively high, and the country faces challenges in reducing it further. Many of these challenges involve addressing the delays women face when they need essential obstetric care. In Egypt and other countries, most maternal deaths could be avoided if women had timely access to high-quality emergency obstetric services. Every year about 1,400 Egyptian women and half of their newborns die from complications related to pregnancy and childbirth. Although this level of maternal mortality (84 maternal deaths per 100,000 live births) is relatively high by international standards, recent evidence suggests that a woman's lifetime risk of dying from maternal causes in Egypt has dropped dramatically, from 1 in 120 to 1 in 250 during the 1990s. Egypt's maternal-mortality success story can be told because the country conducted two nationally representative studies less than 10 years apart. These studies make an exceptional and valuable contribution to the world's understanding of safe motherhood, a health issue for which there is generally a lack of reliable data. The studies' findings also provide insights into the programmatic elements associated with maternal survival.

Title: *Increasing literacy and improving health behaviors in Egypt.* Global Health Link. 2003 Jan-Feb;(119):7

Author(s) Martocci, K.

Abstract Throughout Egypt, girls and women fall far behind their male counterparts in

literacy. In Luxor, while official figures show 45 percent of women are illiterate, among poor women; the rate is as high as 75 percent. In response to a request from Egypt's Ministry of Health and Population and the Egyptian Authority for Adult Education (GALAE), World Education has implemented a pilot project that is integrating women's literacy with maternal and child health information in Luxor in an effort to improve both literacy and women's health. Over a two-year period (2000-2002), World Education, in collaboration with John Snow, Inc. (JSI), local government and non-governmental organizations, worked with women learners and literacy facilitators and supervisors to develop and deliver lessons that integrate health education into the government's national basic literacy program. The program initiative has clearly demonstrated that integrating maternal and child health education into a basic literacy curriculum for women can simultaneously increase literacy and help reduce neonatal, child and maternal mortality in Egypt.

Title: *Injury in Egypt: an analysis of injuries as a health problem.* [Unpublished] 1993 Oct. 119 p.

Author(s) Mashaly AY; Graitcer PL; Youssef ZM

Abstract This report provides an in-depth review of the epidemiology and public health impact of prevalent types of injuries in Egypt. It renders analysis of important and convincing data to indict injuries as a major restraint on Egypt's economic and social development, and outlines the vision to bring those injuries under control. The report begins with an analysis of injury morbidity and mortality, then examines the major types of injuries, home and leisure unintentional injuries; motor vehicle injuries; intentional injuries; and occupational injuries in the Egyptian context. Overall, it is noted that injuries are a significant source of morbidity and mortality in Egypt. Ranked as the fifth leading cause of death and the leading cause of hospitalization, it accounts for at least one-quarter of all outpatient visits. Its impact is indicated in the magnitude of losses in material, life, economy, and national development. Included within each chapter of the report are recommendations for the prevention and control of such injuries. In general, it is suggested that a national program to control injuries is needed to reduce the impact that injuries are having on Egyptian society.

Title: *Egypt Maternal and Child Health Survey, 1991.* Cairo, Egypt, Central Agency for Public Mobilisation and Statistics, 1993. xl, 477 p.

Author(s) Abdel-Azeem F; Farid Samir M; Khalifa AM

Abstract: This report presents a detailed analysis of the results of the 1991 Egypt Maternal and Child Health Survey (EMCHS). The report provides a detailed account of the bio-demographic, environmental and socio-economic determinants of maternal and child health in Egypt. It also identifies the salient features of the diversity in health patterns and in preference and

behavior, and examines the way in which social and economic modernization in Egypt has shaped these patterns and affected the underlying processes." The report includes chapters on adult and maternal mortality, maternity care, marriage patterns, fertility patterns, family planning, family size desires and contraceptive intentions, infant and child mortality, the prevalence of infectious diseases in children, environmental conditions and health, accidents and disability, nutritional status of children, breast-feeding and weaning practices, immunization, and curative measures.

Title: *The Egyptian Maternal and Child Health Survey. Preliminary report--1991.* DIRASAT SUKKANIYAH/POPULATION STUDIES. 1992 Jul-Sep; 14(75):55-78.

Author(s) Egypt. Central Agency for Public Mobilization and Statistics [CAPMAS]

Abstract: Preliminary data from the 1991 Egyptian Maternal and Child Health Survey are presented and analyzed. Separate sections consider residence characteristics, including housing, drinking water, and toilet facilities; and population characteristics, including age and sex distribution and educational status. Other sections cover maternal and child health indicators, including health care during pregnancy, contraceptive prevalence, child health and survival, infant mortality, and nutritional status and immunization. (SUMMARY IN ARABIC).

Title: *The situation of children in Upper* Egypt. Cairo, Egypt, Central Agency for Public Mobilization and Statistics, UNICEF. 1989 Nov. xxx, [2], 156, [1] p.

Author(s) Allen LF

Abstract: This report grew out of the need to analyze the disadvantaged situation of children in Upper Egypt which was revealed in a 1988 study which highlighted the important disparities in child survival indicators between Upper and Lower Egypt. The present report seeks to 1) compare regional, governorate, and district-level data on child survival indicators; 2) identify areas where intervention is most urgently needed; and 3) serve as an advocacy tool to be used by institutions promoting child survival. The introductory chapter describes the applied child survival model, which considers proximate (direct) and socioeconomic (indirect) determinants, and reviews data quality. Chapter 1 provides background information on Upper Egypt (population, religious and ethnic factors, labor force, climate, urbanization, and economic status). Chapter 2 details measures of child survival and causes of mortality, and the third chapter examines nutritional status. Socioeconomic determinants are covered in the next four chapters, which consider illiteracy (especially female illiteracy), the status of primary education, the distribution of primary health care services, and access to safe water. Specific data on each of these topics are provided in appendices. The report also contains a section of maps of each

governorate as well as fact sheets listing demographic, child survival, health, and education indicators and access to safe water.

Title: *Consolidation of the Population and Development Project with the Integrated Social Services Delivery Systems Project.* Population Studies. 1983 Jan-Mar;(64):47-51.

Author(s) Moharem IS

Abstract The Population and Family Planning Board (PFPB) have administered the Population and Development Project (PDP), one of the most important action programs for family planning, since 1977. At the same time the Social Research Center (SRC) of the American University in Cairo has been operating the Integrated Social Services Delivery Systems Project (ISSDSP) since 1978. PDP is a community-based program designed to reduce the high rate of population growth in Egypt and to improve the unfavorable characteristics and unbalanced spatial distribution of the population through deliberate improvement of the socioeconomic environment at the local level. The project's comprehensive approach to population development programming calls for the following: involving all groups within the local community in self help efforts for their own development; integrating population and development objectives at the level closest to the people concerned; utilizing and strengthening existing local government institutions to achieve these objectives; and supporting the process of decentralization of governmental authority to the governorate level and to the village councils. Within this comprehensive approach, PDP explicitly formulates activities aiming at promoting family planning services, mobilizing local resources and human participation to increase the pace of socioeconomic development, and upgrading the managerial capabilities of local village councils and officials. Currently, PDP is being implemented in 12 governorates covering 525 village councils including 2915 villages. The total population served by the project is about 14 million. The ISSDSP was initiated in Menoufia Governorate in 1978. The project entailed a community based, action research program for promoting family planning, health, and social welfare services through an integrated developmental approach which covered the entire rural population of the Governorate. Operationally, the project's approach consisted of 5 major components: an action component; a training component; a family planning intervention component; a health intervention component; and a research component. The ISSDP and PDP projects are totally compatible and the consolidation of their activities in Menoufia Governorate will strengthen the already existing family planning efforts. Both projects are community based and attempt to promote family planning through a local community developmental approach. 1 of the most important features of both PDP and ISSDSP is their emphasis on community based participation with decentralization of decision making processes. Functional tasks of the consolidated project are outlined.

Title: *Environment and child health in Egypt.* In: CDC 23rd. Annual Seminar on Population and Development Issues in the Middle East, Africa and Asia. CDC Annual Seminar, 1993, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1994. :1055-79. Cairo Demographic Centre Research Monograph Series No. 23

Author(s) El-Zeini LO

Abstract This study describes the relationship between environmental conditions and the incidence of childhood diarrhea, cough, and fever in Egypt. The focus was on sanitation and infrastructure, housing conditions, and hygienic practices. Data were obtained from the 1991 Egypt Maternal and Child Health Survey. Findings indicate that diarrhea was more prevalent among children living in houses with no access to piped water. In urban areas, diarrhea prevalence was also higher when water was outside the house compared to access in the house. Diarrhea prevalence was greater in urban areas among children living in houses without a sewage facility. Differences in toilet facilities were not statistically significant in rural areas. Diarrhea was more prevalent in urban areas where children lived close to stagnant water. Prevalence of cough was unrelated to location of the source of water in urban areas, and in rural areas a source of water outside the house was related to less incidence of cough and greater incidence of diarrhea. The location of the source of water in urban areas was significantly related to prevalence of fever. Piped water in the house was related to lower prevalence of fever. Stagnant water near the house was related to increased prevalence of fever, particularly in urban areas. Type of dwelling had a significant effect on diarrhea only in urban areas, but type of flooring had a significant effect in both urban and rural areas. The presence of a kitchen was related to lower exposure to diarrhea and greater prevalence of cough. Crowding affected diarrhea prevalence in both areas. Proper water storage affected diarrhea, cough, and fever prevalence. Multivariate analysis findings reveal that the significant factors related to illness were type of dwelling and water storage in urban governorates, and in rural Upper Egypt location of source of water, flooring, water storage, and means of managing garbage.

Title: *Schistosomiasis in two Nile delta villages: an anthropological perspective.* TROPICAL MEDICINE AND INTERNATIONAL HEALTH. 1997 Sep;2(9):846-54.

Author(s) el Katsha S; Watts S

Abstract: A 5-year interdisciplinary, participatory study of 2 Nile delta villages in Egypt's Menoufia governorate was undertaken to formulate a holistic understanding of the social and environmental context of schistosomiasis. Focus group discussions and participant observation were used to assess knowledge, disease transmission, and treatment-related behaviors. The prevalence of schistosomiasis among men and women in the 2 villages ranged from 28% to 64%. Infection was significantly correlated with the absence of

household water connections in 1 of the villages. Pipes carrying sewage and sullage from latrines to canals and sewage effluent dumped directly into canals are the major sources of contamination. Although villagers were aware of the risk of schistosomiasis associated with use of canals for domestic, recreational, or agricultural activities, they could not identify any alternatives. Most villagers could not identify the symptoms of schistosomiasis infection. Moreover, health center staff were not knowledgeable about the schistosome life cycle and were testing for a form of schistosomiasis no longer predominant in the area. Effective control of schistosomiasis in delta areas requires alternate provisions for disposing of latrine effluent, regular training of health center staff in parasitologic diagnosis and treatment, community participation, and communication between villagers and health center staff.

Title: *Selective population chemotherapy among schoolchildren in Behaira governorate.* The UNICEF / Arab Republic of Egypt / WHO Schistosomiasis Control Project. BULLETIN OF THE WORLD HEALTH ORGANIZATION. 1992; 70(1):47-56.

Author(s) El Malatawy A; El Habashy A; Lechine N; Dixon H; Davis A; Mott KE

Abstract: Physicians, other health workers, and laboratory technicians in mobile and static teams surveyed at least 29,365 school children in Abu El Matameer (October 1983-May 1984) and 40,241 school children in Abo Homos (October 1984-May 1985) districts in Behaira governorate in the Nile delta of Egypt to determine the prevalence and severity of *Schistosoma mansoni* and *S. haematobium* infection and to evaluate the effect of a single dose of praziquantel (40 mg/kg body weight). The administered treatment after the peak transmission season. This project occurred without any coordinated snail control or improvement in the water supply or sanitation. 70% of the school children were boys. In 1 year, the prevalence of schistosomiasis fell from 75.4-40.9% (45.8% reduction) in Abu El Matameer and 80.5-30.8% (61.7%) in Abo Homos. Further reductions in prevalence were greater among girls than boys in both districts (50.4% vs. 43.4% in Abu El Matameer and 69.3% vs. 58.8% in Abo Homos). Heavy *S. mansoni* infections in both sexes (>800 eggs/g of feces) fell 84%. Moreover, after receiving 1 dose of praziquantel, 66.2% of the cases had <100 eggs/g of feces compared to 34.2% before treatment. Treatment resulted in a decrease in the prevalence of *S. haematobium* in Abu El Matameer from 6.1-2.5% and from 17.6-6.7% in Abo Homos. Infections with both *S. mansoni* and *S. haematobium* fell >90% in Abu El Matameer and 89.2% in Abo Homos. The results of a community survey showed a higher prevalence of schistosomiasis among adults (82.7%) than the school children (75.4%). In conclusion, the findings of this operations research study demonstrated that large scale chemotherapy without concurrent changes in water contact frequency and ongoing transmission reduces the prevalence and severity of schistosomiasis.

Title *The determinants of children's nutritional status.* In: CDC 24th Annual Seminar on Population Issues and the Challenges in the 21st Century in the Middle East, Africa and Asia. CDC Annual Seminar, 1994, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1995. :870-94. Cairo Demographic Centre Research Monograph Series No. 24

Author(s) El-Deeb B; Abd El-Moneim A; Abdalla GM

Abstract Data from the 1991 Egypt Maternal and Child Health Survey were used to analyze the determinants of child nutritional status. The dependent variable for nutrition was the Z-score for height for age. Height for age or stunting measures chronic malnutrition as a deviation from the reference population. Independent variables included demographic and socioeconomic variables, type of place of residence, and household conditions (toilet facilities and source of drinking water). Findings indicate that about 33% of children under 5 years old were stunted in 1991. Stunting was more prevalent in rural areas, among young male children, higher birth order children, and children not currently breast fed. Multivariate analysis reveals that stunting among children of uneducated mothers or mothers who never worked was more prevalent. The prevalence of stunting was negatively correlated with standard of living and household environmental conditions. The most important determinants of child nutritional status, as measured by Beta values, were age of the child, birth order, place of residence, and maternal education. A high level of maternal education was related to an almost 40% decrease in the chance of being stunted. After controlling for other variables, an increase in the standard of living was found to yield an almost 20% increase in the height for age index. Children who lived in houses with piped water and flush toilets were taller than children who lived in lower quality housing.

Title: *Water contact behavior and schistosomiasis in an upper Egyptian village.* SOCIAL SCIENCE AND MEDICINE. 1983;17(9):545-62.

Author(s) Kloos H; Higashi GI; Cattani JA; Schlinski VD; Mansour NS; Murrell KD

Abstract Preliminary findings of a study of the role of microspatial behavior and local ecological circumstances in the persistence of *Schistosoma haematobium* infection in El Ayaisha village, Upper Egypt, are presented. 12 types of water contact activities were studied in 3 cohorts of 274, 324, and 392 male students aged 5-16 during a 2 year period. Swimming and playing resulted in more frequent and intensive contact with potentially infective water and in more pollution of snail habitats with schistosome eggs than any other type of activity. Irrigation was probably not a major cause of *S. haematobium* infection in schoolboys; drinking water and fishing carried the smallest risk for this age group. Mapping and discriminate analysis of infection and transmission indicators revealed spatial associations between water contact, schistosome transmission and infection among the various age groups. The highest egg excretion rates in individuals and the highest prevalence rates were noted in the neighborhoods nearest to the canals. Water contact and

contamination of water by the heavily infected school age boys is seasonally concentrated during the summer, when intermediate host snails and infective cercariae are also most common in the water. Frequency, type, and duration of water contact change with age together with types of water bodies used, causing corresponding changes in exposure risk. Nevertheless, other factors, including acquired immunity, preexisting infections, chemotherapy and the effect of the study on the normal water of the study population must also be evaluated. Contact with the Nile and the canals by the general nonschool population of El Ayaisha was studied to verify the observations among the schoolboys and to study socially linked activities and the transmission potential of the various transmission sites. Results are evaluated in regard to the feasibility of various schistosomiasis control measures in El Ayaisha.

Title: *Roles, work, health perceptions and health resources of women: a study in an Egyptian delta hamlet.* SOCIAL SCIENCE AND MEDICINE. 1991; 33(10):1197-208.

Author(s) Lane SD; Meleis AI

Abstract This article deals with the health and welfare of women workers in the developing world. The reported study is based on participant observation, informal interviews, and structured observations of women in a small Egyptian hamlet, "Gamileya" in 1985-86. Women's health is seen in the context of women's life cycles and daily life and work experiences. The purpose was to describe and analyze women's work, health and development, and to discuss the relationship between their daily experiences and health perceptions and resources. Central to the discussion is the question of gender's association with health and experience, of role expectations and the effect on health, and of the ways daily life affects access to health resources. The 104 household farming community is described as primarily Sunni Muslim with a 9% female literacy. A government health clinic, private physicians, and traditional healers are 4 km away. Main transportation is donkey used to obtain water from 2km away, fertilizer, and animal feed. Wash water is available from schistosomiasis infested canal water. The author cautions that the emphasis is on women, not men by design and necessity, and not on morbidity and mortality levels. The discussion focuses on the following topics: the meaning of gender in the hamlet; female life cycles, roles, and health (at birth, circumcision, menstruation, marriage, pregnancy, and motherhood, violence, power, and widowhood); women's work; health perceptions; and health resources. The author's conclude that women's lower status negatively affects girls access to food and health care, and thus to differential mortality. The health risks of young girls are infectious diseases and accident; or married women, pregnancy related morbidity and burns; and of older women, respiratory infection, trachoma, and other aged related chronic conditions. Women's perceptions were that frequent childbirth and hard work worsened their health; ethno-medical beliefs such as heat and drafts were the cause of disease is also believed. Health resources are affected by age and gender. Child survival and

fertility reduction should not be the only concerns of interventions. The hidden contributions of women as informal workers need to be recognized as more than just a housewife in official documents and in project design. Clinic hours in the afternoons are needed. Rehydration needs must take into account the mother's schedule. Consideration must be given to situations of limited resources. Do not publicize avoiding contaminated water unless a safe water supply is provided. Family planning programs must focus on reproductive health not population limitation. Health services must empower women.

Title: *Impact assessment of combined water sanitation and health education program in upper Egypt.* In: CDC 23rd. Annual Seminar on Population and Development Issues in the Middle East, Africa and Asia. CDC Annual Seminar, 1993, [compiled by] Cairo Demographic Centre. Cairo, Egypt, Cairo Demographic Centre, 1994. :1041-53. Cairo Demographic Centre Research Monograph Series No. 23

Author(s) Loza SF; El-Tawil MB

Abstract This study evaluates the impact of the UNICEF program in rural Upper Egypt. The UNICEF intervention occurred during 1990-94. The program provided safe water, family latrines, and promotion of personal hygiene among remote rural populations. The intervention was expected to reduce the incidence of diarrhea among children aged under 3 years. The evaluation was conducted in 10 control and 10 intervention hamlets in Abouteeg and Manfalout districts of the Assiut governorate. Outcome surveillance of diarrhea incidence and correct knowledge and practices in water use and hygiene were conducted at baseline and 3, 6, and 11 months after the intervention was initiated. Evaluators measured behavior related to water use and sanitation among selected households. All households with children aged under 3 years were visited weekly to check for diarrhea morbidity. Evaluators assessed diarrhea risk factors, monitored vital events, and checked tube well water quality and environmental cleanliness. Intervention and control area characteristics were generally similar. There were some differences in illiteracy and education. 90% of both control and intervention hamlets used hand pumps as a source of drinking water, and 37.3% used open well water or water from rivers or agricultural drains for washing. At baseline, both types of hamlets had the same incidence of diarrhea. The diarrhea incidence rate (DIR) declined in both communities over time. Strong significant differences between DIR appeared at 9-11 months. Differences were statistically significant at 0-2, 3-5, and 6-8 months after the intervention. Infants aged 0-11 months showed the greatest decline in DIR. The incidence of respiratory illness remained the same over the entire study period. The intervention increased use of latrines, improved environmental conditions around hand pumps, increased maternal knowledge and awareness of causes and prevention of diarrhea, and improved garbage containment.

Title: *Ecological determinants of intestinal parasitic infections among pre-school children in an urban squatter settlement of Egypt.* JOURNAL OF TROPICAL PEDIATRICS. 1997 Dec; 43(6):341-4.

Author(s) Mahfouz AA; El-Morshedy H; Farghaly A; Khalil A

Abstract The prevalence and potential risk factors of intestinal parasitic infections among preschool children in a randomly selected urban squatter settlement in Alexandria, Egypt, were investigated in a house-to-house survey conducted in 1995. Data on socio-demographic and environmental conditions were obtained from 1324 families and stool samples were collected from 658 children under 5 years of age. The prevalence rates in these children of infections with the intestinal helminths and protozoa were 47.3% and 31.5%, respectively. Multiple logistic regression analysis identified the following risk factors for infection with both groups of intestinal parasites: age over 2 years (odds ratio (OR) = 2.75, 95% confidence interval (CI) = 1.23-4.12 for helminths; OR = 2.65, 95% CI = 1.70-3.45 for protozoa); pools of sewage around the family residence (OR = 2.13, 95% CI = 1.22-3.19 for helminths; OR = 2.83, 95% CI = 1.45-3.95 for protozoa); and toilet shared with another family (OR = 1.95, 95% CI = 1.38-2.75 for helminths; OR = 1.65, 95% CI = 1.06-2.58 for protozoa). Protozoal infections were significantly more likely among children whose families lacked inside tap water (OR = 1.85, 95% CI = 1.26-2.77) and those who disposed of human excrement in a septic tank very close to the dwelling (OR = 2.17, 95% CI = 1.43-3.75). These findings confirm the assumption that intestinal parasites are associated with household environment and sanitation. Improvements in domestic water supplies and the introduction of a piped sewerage system would have a marked effect on the high prevalence of infection in squatter settlement children.

Title: *Impact of environmental factors on child diarrheal morbidity.* In: Proceedings of Workshop on: Health Policies for Mother and Child: Findings from Health Surveys in Egypt, edited by El Tigani E. El Tigani, Hoda Rashad, Ahmed A. Moneim, El Daw A. Mohamed. Cairo, Egypt, Central Agency for Public Mobilisation and Statistics [CAPMAS], 1995. :1-14.

Author(s) Oraby N; Mohamed EA

Abstract This study describes the prevalence of diarrheal morbidity (DM) in Egypt, the impact of sanitation and water supply, and determines the likelihood of environmental impact on DM. Data were obtained from the 1991 Egypt Maternal and Child Health Survey among a sample of 11,074 households, 9862 ever-married women aged under 55 years, and 8161 children aged under 5 years. Findings indicate that 5% of children aged under 5 years had experienced an episode of diarrhea within the past 24 hours. 12% had an episode within 2 weeks. Diarrheal prevalence was slightly higher among males. The mean duration of episode was 4 days, regardless of gender.

Prevalence peaked at 23% at 11 months from nearly 10% at 5 months of age. Prevalence was lowest at 24 months (nearly 3%) and at 59 months (7%). Prevalence did not vary between urban and rural areas and regions. Mean duration of diarrhea was about 1 day less for children of mothers having at least completed secondary education compared to mothers with no education. Diarrheal episodes were more prevalent among males. Severe diarrhea peaked among those aged 6-11 months. Dehydration was high among children aged 6-24 months. Blood in the stool and fever were more prevalent among those aged 24-59 months and 18-23 months. Households with piped water had lower prevalence in all regions, with the exception of urban Lower Egypt. Prevalence was lowest in households with flush toilets. Keeping garbage in a container without a lid was a constraint on higher rates of diarrhea. Multivariate analysis revealed that significant factors affecting DM were piped supply of water, location of toilet, and frequency of disposal of garbage.

Title: *Population and food dynamics: a caloric measurement in Egypt.* International Journal of Middle East Studies. 1980; 12(1):81-100.

Author(s) Parvin M; Putterman L

Abstract Historical and statistical data are employed to analyze past trends and forecast the future behavior of urban and rural population, cultivated and cropped area, and crop yields. After a brief review of Egyptian agriculture and population history, associated growth rates are extracted from recent statistics, and applied to the estimation of future levels of caloric production per inhabitant, urban and rural land-man ratios, and rural population. Lastly, these predictions are discussed, and conclusions bearing on Egypt's agricultural and population policies and on its position in the context of the world food crisis are drawn."

Title: *Gender, Behavior, and Health: Schistosomiasis Transmission and Control in Rural Egypt.* Cairo: The American University in Cairo Press. 2002.

Author(s) Samiha El Katsha and Suzan Watts.

Abstract This study is the First to paint a broad picture of schistosomiasis in rural Egypt. The authors' research in the Nile Delta villages between 1991 and 1997 provides an in-depth community level view of patterns of transmission and strategies for control. An analysis of recent research and policy presents the national level context of the study. Schistosomiasis is primarily a behavioral disease associated with human behavior in relation to water, especially canals; strategies for disease control and treatment need to consider what people do, where, when and why. The book stresses an area of particular concern to social scientists: Gender issues are most fully revealed at the local level, where an infection such as schistosomiasis is transmitted, diagnosed, treated and ultimately (it is hoped) prevented. This bok is unique in presenting schistosomiasis primarily from the viewpoint of the social sciences, yet fully incorporating material from the biomedical sciences and other relevant

disciplines.

Title: *Health and Identity in Egypt*. Cairo: The American University in Cairo Press. 2004.

Author(s) Hania Sholkamy and Farha Ghanem.

Abstract The book argues for relevance of bodily experiences and conditions to the understanding of social processes in Egypt. Using recent ethnography that describes beliefs and practices concerning infertility, beauty, and physical and spiritual health, the authors engage with issues of identity in both urban and rural Egyptian settings. Each study attempts to transcend the notions of viewing health and ill-health as simple physical experiences and draw out their social and political significance. Throughout the studies, Egyptians express their cultures, identities, and beliefs through their enactment of bodily conditions and their quests for therapies of all kinds. While the focus of the volume is on health and beauty, its contribution lies within the tradition of modern social analysis and critique, offering fresh insights to the study of identity that takes us beyond the divide between being and becoming.

1.6 Water and Sanitation

Title: *Socio-demographic characteristics associated with blindness in a Nile Delta governorate of Egypt*. Br J Ophthalmology, 2004; 88:614–618.

Author(s) D Fouad, A Mousa, P Courtright

Abstract Background: Globally, blindness is associated with old age and being female. Other socio-demographic and socioeconomic status characteristics associated with blindness have included educational attainment, and occupation. These factors reflect exposure to specific risk factors for blinding eye diseases and utilizations of preventive and curative services by specific sectors of the population. Methods: A population based survey of blindness and trachoma was conducted in Menoufia governorate in Egypt. 3322 adults 50 years of age and over were sampled from throughout the governorate (population 2.7 million). Visual acuity and clinical conditions were recorded and interviews with respondents were conducted.

Results: Overall, blindness (6/60 presenting vision in the better eye) was recorded in 13% of the study population. Besides age and sex, other factors associated with blindness (logistic regression) were marital status and poor sanitation in the household.

Conclusion: Socioeconomic status does not appear to be a significant factor associated with blindness in adults in this setting. Instead, socio-cultural factors, in particular, characteristics associated with gender sensitive decision making within households, are likely to be more important considerations in understanding blindness in these communities. Successfully combating

blindness in the Nile Delta of Egypt will require gender sensitive efforts aimed at timely and effective utilization of eye care services.

Title: *Water Scarcity and Food Imports: An Empirical Investigation of the 'Virtual Water' Hypothesis in the MENA Region*

Author(s) Hassan Hakimian

Abstract The suggestion that trade between nations may be explained by international differences in resource endowments is an old idea in international trade theory. Despite the long tradition established by Heckscher-Ohlin theorem and a copious literature on the so-called Leontief Paradox, economists have not, however, methodically linked MENA region's well-known water scarcity problem to its mounting food imports. Impetus has instead come from environmental and water resource specialists who have coined the term 'virtual water' to encapsulate the relationship between factor scarcity and agricultural trade in the region.

This paper first reinterprets factor endowments and comparative advantage theory in the MENA context suggesting that the 'virtual water' hypothesis is rooted in the H-O tradition of economic thought. Virtual water is water embedded in commodities. The essential premise of this hypothesis is therefore in line with the H-O model's tenet that 'trade in commodities is an indirect way of trade in factors of production.'

Second, we proceed to a formal testing of the 'VW' hypothesis. Using comparative cross-section regression analysis for 100 countries, we test the importance of water in explaining the structure of imports for different regions of the world in general and for the MENA region in particular. Our findings appear to vindicate the VW hypothesis that water deficit areas' import structure is dominated by large food/agricultural imports. Whilst quite robust, the results are, nevertheless, sensitive to the definition of water used. This calls, *inter alia*, for better quality for water data measurements globally in order to improve the value and reliability of empirical studies. The study ends with a discussion of the policy and political economy implications of the hypothesis in the light of our empirical findings.

Title: *USAID Country Health Statistical Report: Egypt*. Cairo: USAID Office. **March 2004**

Author(s) Unknown.

Abstract This report is one of a series of Country Health Statistical Reports produced on behalf of the United States Agency for International Development (USAID) by the Population, Health and Nutrition Information (PHNI) Project. Each profile contains statistical data on current health conditions, population dynamics, health and family planning behavior, and health and population trends in a given developing country. Information is compiled from PHNI's health statistics database, which draws data from a diverse range of sources listed at

the end of this profile.

Title: *WATER AND HEALTH IN EGYPT: AN EMPIRICAL ANALYSIS.*
ECONOMIC STUDIES: DEPARTMENT OF ECONOMICS, SCHOOL OF
ECONOMICS AND COMMERCIAL LAW GÖTEBORG UNIVERSITY.
No. 132, 2003

Author(s) Hala Abou-Ali

Abstract This thesis is an empirical work dealing with water issues in Egypt where the emphasis is put on the analysis of the relationship: inadequate water quality and health impacts. The first chapter includes a general discussion of water resources in Egypt and other developing countries. This chapter briefly also deals with water tariffs and sustainable water pricing in Cairo.

In the second chapter the impacts of water and sanitation on child mortality in Egypt are assessed. The analysis is conducted using a three-part model specification, comprising discrete choice to model the child prospects of dying during the neonatal period. The remaining parts use transition models, in which unobserved heterogeneity is accounted for, to model infant and childhood risk of death. The results show that access to municipal water decreases the risk, and sanitation is found to have a more pronounced impact on mortality than water. The results suggest that increasing the awareness of the Egyptian population relative to health care and hygiene is an important means to decrease the risk of child mortality. Moreover, gender discrimination is found to have an important effect beyond the neonatal period.

In the third chapter, controlling for the Egyptian households' choice of health infrastructure (i.e., sanitation facility and water accessibility) is done by means of a discrete choice approach consistent with the random utility model. Evidence of the importance of the indirect effect of the source of drinking water on neonatal mortality is found, but generally the indirect effect is negligible. Furthermore, changes in wealth and educational levels are assessed taking into consideration a priori the choice of health infrastructure. The analysis suggests that wealth and education contribute loosely to the child mortality reduction.

The fourth chapter analyzes the impact of better water quality on health improvements using two stated preference methods: choice experiments and the contingent valuation method. These methods were administered to a random sample of 1500 households in metropolitan Cairo, Egypt. The results show that both methods give quite the same welfare measures. Moreover, households in metropolitan Cairo do have a positive willingness to pay for reducing health risks owing to water quality that amounts to roughly double their current water bills. This finding suggests that the willingness to pay is rather small compared to the likely cost.

Title: *Could Free Trade Lead to a More Efficient Use Of Scarce Water Resources in the MENA Region? An Innovative Application of the Heckscher-Ohlin*

Framework. Unpublished manuscript. ND.

Author(s) Serdar Sayan

Abstract This paper aims to econometrically test the validity of HO theory within the context of export patterns of relatively water-abundant and relatively water-scarce countries in the MENA region. For this purpose, the paper calculates the revealed comparative advantage (RCA) indices for thirteen sectors in each country and estimates the relationship between RCA values and water requirements of production in each sector. The results are then used to test whether parameter values estimated from this exercise can be linked to water endowments of the countries considered. By helping determine whether the countries in the sample act according to their comparative advantages, econometric results from this innovative application of HO theory yield interesting policy conclusions for the MENA region.

Title: *The World Summit for Sustainable Development & Beyond: Egypt & the World Water Goals.* Unpublished Manuscript.

Author(s) *Khaled Abu-Zeid*

Abstract Water plays a critical role in each of the other WEHAB initiative areas, Energy, Health, Agriculture, and Biodiversity. Water is the main element for development and poverty alleviation. The Millennium Development Goals resolved to reduce by half the number of people with no access to safe drinking water by year 2015. It is mostly poor people who will be benefiting from achieving this goal, which will be reflected in poverty alleviation through improved health and socio economic conditions.

The World Summit on Sustainable Development (WSSD) held in Johannesburg 2002, achieved another target on sanitation to reduce by half the number of people with no access to sanitation by year 2015. It also resolved to have Integrated Water Resources Management (IWRM) plans by 2005. The EU-Africa Water Initiative,

Euro-Med Water & Poverty Facility and the Africa Water Facility were launched at the Water Dome, a major water venue that was running parallel to the WSSD. The African Ministers Council on Water (AMCOW) met at the Water Dome, endorsed the major water initiatives for Africa, and renewed their commitment to the New Partnership for Africa Development (NEPAD). AMCOW will meet again in

February 2003 in Egypt to prepare for the 3rd World Water Council Forum in Kyoto, March 2003.

On the national scale, Egypt has invested a lot in the water sector, through major irrigation projects, drinking water supply, and sanitation infrastructure, which has contributed substantially to poverty alleviation and socio economic development. On the regional scale, Egypt has invested and played a central role in cooperating with other riparian countries on its trans-boundary surface and groundwater resources. On the international scale, Egypt has been

involved with all major international agencies in the water sector including the current leadership of the World Water Council, exerting tremendous efforts in making water everybody's business and in bringing water on the top of the political agenda.

The challenges ahead of the water sector in Egypt are immense, not only to achieve the world water goals and targets, but to ensure sustainable development for its increasing population within the constraints of limited water resources and increasing environmental stresses. The way ahead requires partnerships of major stakeholders involved in water management and water use. It requires linking with the regional water initiatives being launched. It requires coordination of bilateral and multilateral cooperation efforts.

Title: *Enhancing agricultural water productivity in MENA countries through adoption of improved irrigation technology under production risk: A case study.* Paper presented to the 12th annual conference of the Economic Research Forum, Cairo: 18-21 December 2005

Author(s) G R. Soltani, M. Bakhshoodeh and S. Shajari

Abstract This paper investigates relationship between water-use efficiency, irrigation technology, production risk and factors affecting water use efficiency and irrigation water productivity with an application to wheat in Iran. Applying a two-stage cluster sampling, farm-level data for 2001-02 were collected from a sample of 187 wheat producers in Southern Iran. The risk-premium associated with the use of water is estimated by analyzing a moment-based production risk approach. Based on overall physical and economic water-use efficiencies, which are calculated to be higher for farmers adopting new irrigation technology, most wheat producers over-irrigate their crops. The farmer-specific relative risk premium proxies for the risk attitudes of individual farmers have negative effect but new irrigation method have positive effect on the economic water use efficiency and water (marginal) productivity.

Title: *The effect of water and sanitation on child mortality in Egypt*

Author(s) HALA ABOU-ALI

Abstract This paper assesses water and sanitation's impacts on child mortality in Egypt. The analysis is conducted using a three-part model specification, comprising discrete choice to model the child prospects of dying during the neonatal period. The remaining parts uses transition models to model infant and childhood risk of death where unobserved heterogeneity is accounted for. The results show that access to municipal water decreases the risk and sanitation is found to have a more pronounced impact on mortality than water. The results suggest that increasing awareness of the Egyptian population relative to health care and hygiene is an important feature to decrease child's mortality risk.

Moreover, gender discrimination is found to be of an important effect beyond the neonatal period.

Title: *Water and Social Resource Scarcity: Alternative socially based approaches to assessment and management of water scarcity.* PADRIGU and FAO, AGLW. Draft, March 1998

Author(s) Leif Ohlsson and B. Appelgren

Abstract Water scarcity is commonly perceived as an often absolute shortage of a natural resource, although, when regarded from a management point of view, it may be better described as a lack of adaptive capacity, and thus as a social resource scarcity. Some definitions of the concept social resource scarcity are suggested. The basis for applying the concept to water management is explored by reviewing the conflict potential of water management practices. Attempts to find a basis for quantitative indices of social adaptive capacity to water scarcity are reviewed, and their relative virtues to a qualitative analysis discussed. Pending a workable measure of institutional capacity for water management, an index based on UNDP's Human Development Index, combined with conventional indices of water scarcity, is suggested. Finally, the heuristic value of the concept social resource scarcity is tested in a case study of the Nile basin.

Title: *The Nile Basin: National Determinants of Collective Action.* Yale University Press (March 1, 2002).

Author(s) John Waterbury

Abstract The supply and management of fresh water for the world's billions of inhabitants is likely to be one of the most daunting challenges of the coming century. For countries that share river basins with others, questions of how best to use and protect precious water resources always become entangled in complex political, legal, environmental, and economic considerations. This book focuses on the issues that face all international river basins by examining in detail the Nile Basin and the ten countries that lay claim to its waters. John Waterbury applies collective action theory and international relations theory to the challenges of the ten Nile nations. Confronting issues ranging from food security and famine prevention to political stability, these countries have yet to arrive at a comprehensive understanding of how to manage the Nile's resources. Waterbury proposes a series of steps leading to the formulation of environmentally sound policies and regulations by individual states, the establishment of accords among groups of states, and the critical participation of third-party sources of funding like the World Bank. He concludes that if there is to be a solution to the dilemmas of the Nile Basin countries, it must be based upon contractual understandings, brokered by third-party funders, and based on the national interests of each basin state.

Title: *Social Values and Management of Water in Egypt. Research Project Menia University. IDRC, Egypt. Project grant 2002-2005.*

Author(s) Lamia El Fatal

Abstract With internal renewable water resources of less than 30m³/person (FAO 1995), Egypt figured at the top of the list of water-scarce counties in year 2000. The management of water is often fragmented between different parties (government agencies, nongovernmental organizations (NGOs), farmer organizations, private sector, etc.), leading to confusion, conflict and mutually damaging tactics. In irrigation schemes, the process of water policy formation, assessment and appraisal needs to include groups that are representative of political, technical, managerial and (most important) water user associations. Using a participatory methodology, researchers will examine the social and cultural value of water in Egypt, and both traditional and newly established patterns of water resources administration. They will seek a framework that will integrate considerations of technology, democracy, economics, environmental preservation, growth and security into informed water management and governance practices. The overall objective is to enable farming communities to access and use water more efficiently, equitably and sustainability.

Title: *Making Cities Work: The Greater Cairo Healthy Neighborhood Program, An Urban Environmental Health Initiative in Egypt.* Office of Health, Infectious Diseases and Nutrition, Bureau for Global Health, Washington, D. C.: U.S. Agency for International Development. Activity Report 142, September 2004.

Author(s) Roy Steven Nakashima, Gamal Zekrie Bisada, Obeid Faheem Gergis, Antoin Gawigati & Jeffrey H Hendrich

Abstract Rapid and uncontrolled urban expansion is common in major cities throughout the world. The rural poor are drawn to metropolitan areas by the lure of jobs, family and perhaps a better life. Often they congregate on the peripheries of cities in overcrowded, unplanned urban slums which expand without the structure or controls necessary for planning land use and density, security, social and health services or the physical infrastructure of roads, sewer, water, electricity and telecommunications.

Such is the case of Ezbet el Nawar (EEN), an informal slum neighborhood located on the boundary between Cairo and Qalyubeya Governorates in the Arab Republic of Egypt.

The Making Cities Work/Greater Cairo Healthy Neighborhood Program (CHNP) was carried out in Ezbet el Nawar from October 2003 to August 2004. This program was funded by the United States Agency for International Development (USAID), Making

Cities Work program and implemented by the Environmental Health Project (EHP) and the Experimental Center for Recycling and Environmental Development (ECRED) in EEN.

The project goal was to design, promote and implement affordable, feasible and replicable improvements in household and community sanitation, drinking water and other environmental health technologies. Activities included an engineering assessment of sewer and water systems, analyses of 75 water samples from private wells and the municipal filtered water system, a neighborhood health and environment survey of 510 households, preparation of digital base maps and a local plan of action, and implementation of water and sewer improvements. Activities to develop evidence and support for future interventions were designed to involve stakeholders in Ezbet el Nawar.

II Gender Indicators

Title: *Problems Concerning Women and Their Consideration in Development Planning: The Case of Egypt.* Informal Meeting on the Identification of Issues Concerning Women and Their Consideration in Development Planning, San Marino: Document du secretariat. 77 pp. Incl. bibl (1985).

Author(s) Abadir, R. S.

Abstract: The study concluded that women participation can be studied through their role in education and employment and development planning. This still needs development planning in Egypt.

Title: Meeting of Experts on "**Theoretical Frameworks and Methodological Approaches to Studies on the Role of Women in History as Actors in Economic, Social, Political and Ideological Processes**". In Women's Liberation Movements in 19th and 20th century Middle East, (1984).

Author(s) Ahmed, L.

Abstract: The report discusses women's status through women's liberation movement in the 19th and 20th century in the Middle East by reviewing women's rights, women in politics in contemporary societies such as Islam, Turkey, Egypt, Algeria and Yemen.

Title: **Education et Formation Professionnelles des Femmes dans Le Monde Arabe et en Europe.** Tunis: Konrad Adenauer Stiftung. 223pp. Tables (1997).

Author(s) Biegel, R. and Zghal, R.

Abstract: The book is divided into six chapters discussing the program of Euro Arab Dialogue, education and training strategies in the Arab World and in Europe, the legal foundations of women education in the Arab World and Europe, higher education graduate women, psychological and social problems,

education, differences between rural and urban milieus and women training examples.

Title: Arab Women's Employment in the Private Sector. A paper presented in the Conference on "**Socio-Economic Challenges for the 1990's: Arab Women's Contribution to Development**". Cairo: organized by United Nations Development Program and co-sponsored by the League of Arab States. New York: UNDP. A summary in English. 9pp.Summary.

Author(s) Bin Sultan, F. Z.

Abstract: The study points out the difficulty of obtaining an accurate picture of Arab women's participation in development and their participation in employment, particularly in the private sector. It came to the conclusion that ignoring human resources, female workers, remains the greatest obstacle to development in the Arab world.

Title: **Women and Development, An Annotated Bibliography.** Washington: Overseas Development Council. (1976). 170pp

Author(s) Buvinic, M.

Abstract: An annotated bibliography about the status of women, enhancement of women, women in work and work in development.

Title: **The State of Egyptian Women and Children.** Cairo: The Central Agency for Public Mobilization and Statistics (CAPMAS) and the United Nations Children's Fund (UNICEF). (1994). 106pp.

Author(s) CAPMAS and UNICEF

Abstract: This report deals with the situation of women in Egypt in five main areas, organization, and religious, legal, economic, health. The four areas are following the same pattern, analyzing the current situation in the country, the constraints and problems and giving recommendations.

Title: ECA, UN, and ATRCW. **Women and the Industrial Development Decade in Africa.** Addis Ababa: ECA, UN / ATRCW (African Training and Research Center for Women Development), 86/05. 193pp. (1986). Incl. bibl.

Author(s) ECA, UN, and ATRCW.

Abstract: Women's participation in development was analyzed and in particular in industrial development in Africa. Women's employment cases as self employed, entrepreneurs in Egypt, Cote d' Ivoire, Nigeria and Tanzania was presented.

Title: **The Situation of Women in Egypt.** Egyptian National Committee for NGO Preparation for Beijing 1995, in collaboration with UNICEF-Egypt. (1995). 26pp.

Author(s) Egyptian National Committee for NGO Preparation for Beijing 1995 and UNICEF-Egypt.

Abstract: The report discusses aspects of women's health, women's education, women's economic participation using various health and educational indicators. Women's economic participation was presented through various indicators like anticipation in public life and decision making indicators.

Title: **Research Summaries and Recommendations drawn by the Gender Equality and Empowerment.** Cairo: Egyptian NGO Forum in preparation for ICPD. (1994). 24pp.

Author(s) Egyptian NGO Forum in Preparation for ICPD.

Abstract: The report includes the recommendations of the gender task force concerning equality in socioeconomic rights as education, work, loans, credits, cultural activities, equality before the law, the right in marriage contract, equality before the penal code, equality before the nationality law as well as equality in political participation and women's reproductive rights.

Title: **Rural Women Project, An Impact Evaluation Study.** Cairo: UNICEF. (1992).

Author(s) El Baz, S.

Abstract: This report studies the impact of a rural project, its impact on income generation, its economic sustainability, the project problems use of project's income, targeting and its development objectives.

Title: **Women's Participation in the Labor Force.** Cairo: Central Agency for Public Mobilization and Statistics (Women and Child Research Unit) United Nations Children's Fund, UNICEF-Egypt. 39pp. (1991) ref.

Author(s) El Deeb, B.

Abstract: The report examines the features of working women in Cairo in comparison to the characteristics of males and females in the capital city. In addition the study looks at the changes in working women with respect to their numbers and characteristics.

Title: **The Economic Status of Women In Egypt.** Cairo: The Social Research Center, American University In Cairo. (1996). 46pp.

Author(s) El Laithy, H.

Abstract: This report is designed to focus on of the male characteristics of male headed households compared to male headed households. Poverty lines and poverty measures are investigated. Characteristics of female and male headed households are compared with respect to the place of residence, education and employment status. The underlying policies that generate poverty are considered.

Title: **The Sociological Profile of Women in Egypt.** Cairo: The Social Research Center, American University in Cairo. (1996). 43pp.

Author(s) El Safty, M..

Abstract: The report is an analysis of the conflict between Egyptian laws and application. Several aspects were discussed in this context: the right to education, employment opportunities, marriage related issues, health status, and political participation and citizenship rights.

Title: **Women in Employment, Theory versus Practice.** Cairo: A Research Project presented to ILO, July 1996. 69pp.

Author(s) El Safty, M..

Abstract: The study presents the increasing number of female employment within the idea of gender division of labor and discussed women's limited participation in top decision making jobs. Women's and labor laws were presented within the approach of contradiction between theory and application.

Title: Female Employment, A Sociological Profile. Cairo: Friedrich Ebert Stiftung. (1995). 55pp.

Author(s) El Safty, M.

Abstract: The study examines the gender division of labor and emphasizes the duality of roles and role conflicting. In addition the study used the focus group as a method for field analysis. Discrimination in hiring women and problems of harassment are the main obstacles against employment of females.

Title: **A Report about the Economic Status of Women in Egypt.** General Department of Social Affairs, Research and Population Unit, New York: United Nations for Population. (1995).57pp. tables and bibl. (Arabic)

Author(s) El Sayed, M. H. and El Whischi, K.

Abstract: The report presents analysis of a survey on women in employment. Several aspects were studied in this report such as employment characteristics, reasons for non work, working time and mobility, employment and demographic characteristics, employment and role conflicting for women.

Title: **Women and Poverty in the ESCWA Region.** Amman: The Arab Regional Meeting for the Preparation for the Fourth International Conference for women in Beijing. (1995). (Arabic) 74pp.

Author(s) El Solh, K.

Abstract: In the revision of the feminization of poverty in The ESCWA Region it was indicated that the main implications of feminization of poverty are a high drop out from schools, an increase in the working children, and an increase of working women in the informal sector. The study suggested a comprehensive plan of action to combat poverty.

Title: **Arab Women in ESCWA Member States, Statistics, Indicators and Trends.** New York: United Nations. 301 pp. (1994). Tables, Statistics

Author(s) ESCWA.

Abstract: The first editing dealing with women in the Middle Eastern region provides an extensive compilation of data collected mainly at the national level. It sets out to help in measuring the progress achieved by women in all aspects of sustainable development in the region: population, families and households, education and training, health and childbearing, housing, human settlements and environment. Women's work and economic activity and public life and leadership.

Title: Final Report, Expert Group Meeting on the Arab Families in a Changing Society: **New Concept for Partnership.** Abu Dhabi: ESCWA. (1994).

Author(s) ESCWA.

Abstract: This report is an overview of the Experts meeting on Arab Families in a changing society discussing the Arab Families and legislations, Arab Families and culture, impact of socioeconomic conditions on Arab families, impact of wars and crisis on Arab Families.

Title: **Arab Women and Employment, Present Situation and Development Requirements.** Arab Women in Development Series. (Arabic) Amman: ESCWA. (1992).

Author(s) ESCWA.

Abstract: This study is examining the status of women as female labor in the labor market as part of the labor force. Level of education is one of the main aspects influencing female's status in the labor market.

Title: **Arab Women and Work: The Current Status and Development Requirements.** Arab Women and Development Series. Amman: ESCWA. (Arabic) (1992). 119pp.

Author(s) ESCWA.

Abstract: The aim of this study is to present the main indicators for the measurement of women in labor force, the size and the rate of growth of population and the characteristics of working women. It depends on the statistical approach in analysis. Case Studies are Jordan, Emirates, Bahrain, Kuwait, Egypt, Iraq, Syria and ARE.

Title: **Women in the World, 1970-1990, Trends and Statistics.** New York: ESCWA UNICEF, UNFPA, UNDP. (1991).120pp. tables, bibl. (Arabic)

Author(s) ESCWA, UNICEF, UNFPA, UNDP.

Abstract: Violence against women in households was presented through statistics. Political participation at the national and at the local levels was documented. In addition there is documentation of the status of women in education in the whole world.

Title: **Women in Egypt.** Cairo: UNICEF. (1994). 29pp.

Author(s) Farah, N. R.

Abstract: The objectives of this literature review is to identify major research topics, to analyze existing research paradigms, to assess current theoretical approaches and to identify research gaps in studies on women in Egypt. Two main approaches were used in the Master Plan of Operations, 1995-2000

Title: **Women in Egypt: A Literature Review.** Cairo: UNICEF. (1994). 40pp. Bibliog.

Author(s) Farah, N. R.

Abstract: Farah in her literature review on women in Egypt found much of the work theoretically weak, using the modernization approach which has been severely questioned elsewhere. Moreover this work blames culture for obstructing modernization yet does not critically examines the notion of culture itself. Moreover, ways to alleviate or overcome gender inequality and discrimination are not heavily discussed in the literature.

Title: **EMPOWERING WOMEN, DEVELOPING SOCIETY: Female Education in the Middle East and North Africa.** PRB, MENA Policy. Brief. (2003). 8 pp. Tables and graphs.

Author(s) Farzaneh R. F. and Valentine M. Moghadam

Abstract: This policy brief offers an overview of education's benefits to women, families, economies, and societies and highlights the ongoing concerns about education in MENA countries. It also looks at education's links with fertility

and employment, two important elements in women's empowerment.

Title: **Research Workshop on the Preliminary Results of the Study on Urban Women and Poverty Elimination in Egypt, for better methods for Poverty Alleviation and Women's Participation.** Cairo: ILO, UNDP. (1994). (Arabic) Several reports

Author(s) Fergani, N.

Abstract: The study examines the existing governmental programs to alleviate poverty and found that despite the fact that they are theoretically good they are practically efficient. This necessitates the establishment of NGO's with financial independence.

Title: **"Features of Women's Present Status in Egypt and Their Impact on Development."** CDC Series on Population and Development. Cairo: Cairo Demographic Center. (1994). 37pp. (tables) Arabic Summary, Bibliography.

Author(s) Fouad, D. M.

Abstract: The author studies in a positive way women's political rights as well as civil and employment rights. Family size, family law and family planning surveys were also presented.

Title: **A Reader, Workshop on the Beijing Conference and Gender Issues in the Arab World.** Program for the Development of Social Sciences. Cairo: The Ford Foundation. (1995). 270pp.

Author(s) Ford Foundation.

Abstract: This reader is a selection of articles on gender, politics and ideologies in the Arab World and gender and development in the Arab World.

Title: **Promotion of Women, Guidelines for International Development Cooperation.** Bonn: Friedrich Ebert Stiftung. (1995).30pp.

Author(s) Friedrich Ebert Stiftung.

Abstract: The prospects for the advancement of women in the 90's has been documented in this report with guidelines for promotion of women in International Development Cooperation by determining the objectives of the project and recommending women's participation in the political decision making process and improving the lobbying efficacy of women's groups.

Title: **Government of Egypt - UNICEF Cooperation 1995-2000.** Cairo. (1995). 29pp.

Author(s) Government of Egypt and UNICEF.

Abstract: This report examines the situation of mothers and children and sets a program of action for health and nutrition, water, environment and sanitation as well as educational programs.

Title: **Legal Rights for Egyptian Women, between Theory and Application.** Cairo: The Group Caring for Women's Affairs. 2nd ed. (1992). (Arabic) 48pp.

Author(s) The Group Caring for Women's Affairs.

Abstract: The book studies the right to work for women in Egypt, social insurance laws, political rights of women, and women's discrimination in the inheritance law, women and communication development, gender. Changes in women's livelihood found to be affected by their education, the environment and the ideological changes. Women in decision making are facing a women gender gap. There is need for improved gender analysis new definitions and addressing women issues at the macro economic level.

Title: **The Egyptian Women from Nairobi to Beijing, Egyptian NGO Report to Beijing.** Cairo: The Group of NGO's for the Preparation for Beijing, (1995). 248pp

Author(s) The Group of NGO's for the Preparation for Beijing, 1995.

Abstract: The report includes 17 social studies presented by the non governmental Organizations (NGOs) to the International Conference on Women held in Peking in 1995, all dealing with the development of the Egyptian women. The studies include recommendations and tables and range in topics from poverty and female headed households, the impact of economic reform and structural adjustment on the Egyptian women to girls education, health and legal issues.

Title: **Gender and Development.** Cairo: The American University Press. (1996). 184pp.

Author(s) Haider, R.

Abstract: This book is one of the latest overview and critique of the gender biases of development initiatives and argues that modernization in general and structural adjustment in particular have had negative effects on women's economic and social status throughout the developing world. Gender and Development tries to make the point that these development initiatives are not implemented in a cultural vacuum, but rather are affected by gender relations in a particular society like in Egypt.

Title: **Privatization and the Demise of State Feminism in Egypt. In: Modernizing Women's Lives: Feminist Critiques of Structural**

Adjustment. Sparr, Pamela (ed.) London: Zed Books,Ltd. Hatem, Merwat. (1994). 214pp.

Author(s) Hatem, M.

Abstract: The essay analyzes the negative effects of privatization on various aspects of Egyptian women's lives, including education, employment, and health. The results are a decline in the quality of women's lives and social status which is presented empirically.

Title: **Enhancing Women's Participation in Economic Development.** Washington: International Bank for Reconstruction and Development, The World Bank. (1994). Pp.73

Author(s) IBRD.

Abstract: Investing in women was found a basis for growth, efficiency and for producing poverty. The barriers for development for women is low investment in women's education and health, poor access to services and assets, legal and regulatory barriers, women's dual roles at home and in the marketplace. The roles of governments and the World Bank were determined in strengthening the data base for gender analysis and developing gender basis policies and programs.

Title: **Womanpower: The Arab Debate of Women at Work.** Cambridge: Cambridge University Press. (1988). 187pp

Author(s) Hijab, N.

Abstract: The Arab debate on women at work addresses the economic power of women with respect to family law, religious practices, social conditions, social values, and social structure. It is a woman in development approach seeking empowering of women within all limitations.

Title: **Economic Liberalization, Competitiveness and Women's Employment in the Middle East and North Africa.** Economic Research Forum, Kuwait: Conference on "Labor Markets and Human Resource Development", 16-18 September, 1996. Incl. biblio. 20pp.

Author(s) Karshenas, M..

Abstract: The study concluded that most of the studies of the impact of adjustment on women have treated the gender issues as a derivative or secondary subject in the analysis of adjustment. However this study concluded that economic liberalization policies without due consideration of gender issues can lead to a chain of events with prolonged economic retrogression. Thus affirmative action policies for greater education of women and their greater integration into the workforce should be taken.

Title: **Gender and Development in the Arab World, Women's Economic Participation, Patterns and Policies.** Tokyo: United Nations University Press. London: Zed Books. Tokyo: United Nations University Press. (1995). 203pp.

Author(s) Khoury, N. and Moghadam, V. (eds).

Abstract: The book explores Arab women's share in employment and their contribution to national economic development. It documents the patterns and trends of female employment and highlights the determinants of labor force participation in a number of countries. A distinguished cast of this book is that it looks at the cultural bias in underestimating women's real contribution to national production and family welfare. The book analyses the political economy of female employment while also investigating the real issue of women.

Title: **Women Working Together. A handbook of activities for women's learning and action groups.** Washington: ORF Overseas Education Fund, Center for Development Services. (1983). 107pp. (Arabic) charts, forms

Author(s) Kidervatter, S.

Abstract: This handbook aimed to identify community relations, community self help and interpersonal communication, group communication, social development women's rights and social problems.

Title: **Women and the New International Economic Order in the Arab World.** A paper presented to the UNDP for the Development Issue Paper (DIP) on Women and a New International Economic Order. (1993). 43pp.

Author(s) Korayem, K.

Abstract: The Impact of International Economic Order on Women in the Arab World is studied by examining the new conditions of trade and its impact on the division of labor in the different economic sectors in the Arab World.

Title: **Family, Gender and Population in the Middle East: Policies in Context.** Cairo: The American University in Cairo Press. (1995). 260pp.

Author(s) Macklouf, C. O. (ed).

Abstract: The chapters in this text revise versions of papers presented at the 1994 International Symposium on the topic sponsored by the Population Council in Cairo. The first chapters deal with political factors including the legal and religious relations. The second part concentrates on the social constraints affecting individual behavior. The third group of chapters focuses on the effectiveness of health and population programs.

Title: **Economic Reforms, Women's Employment, and Social Policies.** In Case Studies of China, Vietnam, Egypt, and Cuba, Valentine Moghadam, ed. Helsinki: World Development Studies 4, UNU World Institute for Development Economics Research (UNU/WIDER). (1995).

Author(s) Moghadam, V. M.

Abstract: Structural Adjustment poses risks and opportunities for Egyptian women in the labor force and challenges for the government, NGO's and donors to design policies and introduce initiatives that achieve both efficiency and gender equity.

III Vulnerable Groups and Vulnerability Indicators

Title: ***WHERE DID ALL THE GROWTH GO? EXTERNAL SHOCKS, SOCIAL CONFLICT, AND GROWTH COLLAPSES.*** John F. Kennedy School of Government Harvard University. Unpublished Manuscript. 1998.

Author(s) Dani Rodrik

Abstract This paper argues that domestic social conflicts are a key to understanding why growth rates lack persistence and why so many countries have experienced a growth collapse since the mid-1970s. It emphasizes, in particular, the manner in which social conflicts interact with external shocks, on the one hand, and the domestic institutions of conflict-management on the other. Econometric evidence provides support for this hypothesis. Countries that experienced the sharpest drops in growth after 1975 were those with divided societies (as measured by indicators of inequality, ethnic fragmentation, and the like) and with weak institutions of conflict management (proxied by indicators of the quality of governmental institutions, rule of law, democratic rights, and social safety nets).

Title: ***ISLAMIST RESPONSES TO GLOBALIZATION: CULTURAL CONFLICT IN EGYPT, ALGERIA, AND MALAYSIA.*** Unpublished manuscript, N.D. PDF document

Author(s) Paul M. Lubeck

Abstract The author notes when surveyed what is readily apparent in postcolonial states Islamic states and societies is that despite contentious intellectual ferment and an explosion of social movement activity, not all states and societies with Islamic majorities are experiencing levels of communal, ethnic, or religious conflict to the degree that regimes, states, and international security are threatened. This variation raises a number of questions for the study of communal conflicts in Muslim-majority states: What factors explain the variations? Why are some state elites successful in containing the revival of radical Islamic movements while others face civil war and/or permanent low-intensity conflict?

Is an Islamic nationalism replacing the secular nationalism which in the era of

Fordism had been so prominent? How has the restructuring of the global political economy since 1975—the petroleum boom and neo-liberal economic policies—shaped the context within which state elites and Islamic movements compete for popular support and hegemony over the discourse of nationalism? He argue that communal conflict, either high or low, is determined by the interaction of three factors: (1) globalization processes, including adjustment to post-Fordist economic structures, economic liberalism, and structural adjustment policies; (2) state developmental capacity, especially the ability of a state to manage economic growth and income distribution, constrain corruption levels, and manage relations with ethnic minorities; and (3) the historical legacy of Islamic institutions and movements, including indirect rule, roles of Islamic elites in the national state, and the forms of Islamist opposition. The paper begins with a conceptual discussion of these three factors and then illustrate the argument with a 293 comparison of Algeria and Egypt—countries that experienced high communal conflict—and Malaysia, a Muslim-majority state that has experienced little communal conflict.

Title: *Charged with Being Children: Egyptian Police Abuse of Children in Need of Protection.* London: HRW Index No.: E1708 July 4, 2005 Report

Author(s) Human Rights Watch.

Abstract The Egyptian government conducts mass arrest campaigns of children whose "crime" is that they are in need of protection, Human Rights Watch said in a new report released today. Children in police custody face beatings; sexual abuse and extortion by police and adult criminal suspects, and police routinely deny them access to food, bedding and medical care. More than 25 percent of all children arrested in Egypt in 2001 were children considered "vulnerable to delinquency" under Egypt's Child Law. They have committed no crime, and are typically homeless, beggars or truants from school. Police often use the charge as a pretext to clear the streets of children, extort money and information, force children to move on to other neighborhoods, and bring children in for questioning in the absence of evidence of criminal wrongdoing. The 87-page report, "Charged with Being Children: Egyptian Police Abuse of Children in Need of Protection," draws on interviews with dozens of Egyptian children living or working on the street, as well as police, prosecutors, social workers and judges in the juvenile justice system. Human Rights Watch called on the Egyptian government to immediately end its policies of arresting children it deems "vulnerable to delinquency" and of routinely detaining children in police lockups. Egypt should also designate a full time position in the Ministry of Justice to oversee investigations of torture and ill-treatment of children in police custody. Human Rights Watch found that police in Cairo routinely beat children with batons, whips, rubber hoses and belts, and transport them in dangerous vehicles, often with adult detainees. Children held in overcrowded and dirty adult police lockups must bribe guards or beg from criminal detainees to obtain food and bedding. Children who are transferred to the overcrowded al-Azbekiya juvenile police are locked up receive only

marginally better treatment, and may be detained with children who are significantly older or who have committed serious crimes.

Title: *Egypt: Margins of Repression: State Limits on Nongovernmental Organization Activism.* London: HRW Index No.: E1708 July 4, 2005. Report

Author(s) Human Rights Watch

Abstract This 45-page report discusses the impact of the law governing associations, Law 84/2002, which came into effect in June 2003. The report concludes that the most serious barrier to meaningful freedom of association in Egypt is the extra-legal role of the security services. Human Rights Watch documented numerous cases where the security services rejected NGO registrations, decided that could serve on NGO boards of directors, harassed NGO activists, and interfered with donations reaching the groups.

Title: *Reading between the "Red Lines" The Repression of Academic Freedom in Egyptian Universities.* London: HRW Index No.: E1706 June 9, 2005 Report

Author(s) Human Rights Watch

Abstract This report details ongoing government restrictions on classroom discussions, research projects, student activities, campus demonstrations and university governance. The report addresses conditions in public institutions including Cairo, Alexandria, `Ain Shams, and Hilwan Universities, and private institutions like the American University in Cairo.

Title: *Egypt: Mass Arrests and Torture in Sinai.* London: HRW Index No.: E1703 February 22, 2005 Report

Author(s) Human Rights Watch

Abstract This 48-page report documents how, in the weeks and months after the bombing that killed 30 people in the resort town of Taba, the State Security Investigation agency conducted mass arrests in northern Sinai without a warrant or judicial order as required by Egyptian law.

Title: *Divorced from Justice: Women's Unequal Access to Divorce in Egypt.* London: HRW Index No.: E1608 December 1, 2004 Report

Author(s) Human Rights Watch

Abstract This 62-page report documents serious human rights abuses stemming from discriminatory family laws that have resulted in a divorce system that affords separate and unequal treatment to men and women.

Title: *Egypt's Torture Epidemic*. London: HRW February 25, 2004 Report

Author(s) Human Rights Watch

Abstract Torture in Egypt is a widespread and persistent phenomenon. Security forces and the police routinely torture or ill-treat detainees, particularly during interrogation. In most cases, officials torture detainees to obtain information and coerce confessions, occasionally leading to death in custody. In some cases, officials use torture detainees to punish, intimidate, or humiliate. Police also detain and torture family members to obtain information or confessions from a relative, or to force a wanted relative to surrender.

Title: *The State of Egypt Vs. Free Expression: The Ibn Khaldun Trial*. London: HRW Index No.: (E1401) January 1, 2002 Report

Author(s) Human Rights Watch

Abstract Egyptian authorities should release activist scholar Saadeddin Ibrahim and three colleagues immediately and unconditionally, Human Rights Watch said today. A Supreme State Security Court sentenced Ibrahim and his co-defendants to lengthy jail terms in May following an unfair trial. The Court of Cassation is scheduled to hear their appeal on December 19, but can only rule on points of law and not on any substantive matters of fact or evidence. In this report, Human Rights Watch documented numerous irregularities in the trial, concluding that it were unfair at all stages of the proceedings. The report, "The State of Egypt vs. Free Expression: The Ibn Khaldun Trial," also sharply criticized the state of emergency decrees under which some of the charges were brought, and the treatment of the defendants at the time of their arrest and initial detention. 21pp,

Title: *Charged with Being Children: Egyptian Police Abuse of Children in Need of Protection*. London: HRW Index No.: E1501 February 19, 2003 Report

Author(s) Human Rights Watch

Abstract The Egyptian government conducts mass arrest campaigns of children whose "crime" is that they are in need of protection, Human Rights Watch said in a new report released today. Children in police custody face beatings; sexual abuse and extortion by police and adult criminal suspects, and police routinely deny them access to food, bedding and medical care. More than 25 percent of all children arrested in Egypt in 2001 were children considered "vulnerable to delinquency" under Egypt's Child Law. They have committed no crime, and are typically homeless, beggars or truants from school. Police often use the charge as a pretext to clear the streets of children, extort money and information, force children to move on to other neighborhoods, and bring children in for questioning in the absence of evidence of criminal wrongdoing. The 87-page report, "Charged with Being Children: Egyptian Police Abuse of Children in Need of Protection," draws on interviews with dozens of Egyptian

children living or working on the street, as well as police, prosecutors, social workers and judges in the juvenile justice system. Human Rights Watch called on the Egyptian government to immediately end its policies of arresting children it deems "vulnerable to delinquency" and of routinely detaining children in police lockups. Egypt should also designate a full time position in the Ministry of Justice to oversee investigations of torture and ill-treatment of children in police custody. Human Rights Watch found that police in Cairo routinely beat children with batons, whips, rubber hoses and belts, and transport them in dangerous vehicles, often with adult detainees. Children held in overcrowded and dirty adult police lockups must bribe guards or beg from criminal detainees to obtain food and bedding. Children who are transferred to the overcrowded al-Azbekiya juvenile police are lockup receive only marginally better treatment, and may be detained with children significantly older or who have committed serious crimes.

Title: *Underage and Unprotected: Child Labor in Egypt's Cotton Fields.* London: January 31, 2001 Report

Author(s) Human Rights Watch

Abstract Egyptian children employed by cotton-farming cooperatives work long hours, routinely face beatings at the hands of foremen, and are poorly protected against pesticides and heat, Human Rights Watch said in a this new report. Most of the children are also well below the country's legal minimum age of twelve for seasonal agricultural work, the report charged. The children are employed under the authority of the Agriculture Ministry, and the Egyptian government has a responsibility to ensure compliance with the country's 1996 Child Law. Thereport also documents conditions faced by more than one million rural children who are hired each year from May to July, largely during the school recess, to control cotton leafworm infestations. Working eleven hours a day, seven days a week, the children inspect cotton plants for leafworm eggs and manually remove infected portions of leaves. An agricultural engineer assigned to one of the cooperatives told Human Rights Watch that children were cheaper to hire, more obedient, and had the "appropriate height" for inspecting cotton plants.

Title: *Egypt: Court Upholds Closure of Women's Organization.* London: June 2, 1996 Report

Author(s) Human Rights Watch

Abstract On May 7, 1992, an Egyptian administrative court decided to uphold last year's decree dissolving the Egyptian branch of the Arab Women's Solidarity Association (AWSA), a prominent women's rights organization. The court refused to grant an injunction that would have allowed AWSA to continue operating while it awaits the outcome an appeal on the merits of the government decree. After several delays, the three-judge State Council court

rejected AWSA's request for an injunction, finding that the group had "violated the rule of law and public order and morality." Led by renowned writer and women's rights advocate Dr. Nawal el-Saadawi, AWSA -- through both its international organization and Egyptian branch -- has focused on the social and economic advancement of women and women's participation in political life. The administrative closure order by the Egyptian authorities continued the pattern of official harassment that AWSA has faced since its formation in 1982. The court ruled that AWSA's activities did not comply with "the general interests of the country" and "damaged relations between Egypt and some foreign and Arab-sister states." The court also found that AWSA's activities "threatened the peace and political and social order of the state by spreading ideas and beliefs offensive to the rule of Islamic sharia and the religion of Islam, a matter which forms a substantial violation of the law." In an interview with MEW last month, Dr. el-Saadawi described the ruling as "unjust," and promised continued legal appeals. The government's move to dissolve AWSA generated an international campaign of protest from human rights organizations and women's rights groups. In addition, numerous members of the U.S. Congress expressed their concern about the dissolution order to Egyptian President Hosni Mubarak and U.S. Secretary of State James Baker. The case has focused attention on Egypt's Law No. 32 of 1964, the Law of Associations and Private Foundations, which grants the Ministry of Social Affairs wide powers of control over private citizens' organizations. Egyptian lawyers and human rights advocates view the AWSA case as an example of how the government can utilize the law of associations to muzzle dissent in Egypt. Saad el-Din Ibrahim, a prominent Egyptian academic and human rights advocate, described the State Council Court's decision as a "warning that any non-governmental organization speaking out on public issues could be penalized by administrative decree." June 2, 1996 Report

Title: *Prison Conditions in Egypt: A Filthy System.* London: February 1, 1995 Report

Author(s) Human Rights Watch

Abstract This is the first report by a human-rights organization about Egyptian prisons based on on-site inspections. Beginning on February 12, 1992, Middle East Watch inspected six prisons in an eight-day period. These facilities housed approximately 9,800 inmates, over twenty-seven percent of Egypt's prison population. Five of the prisons are located just outside the Cairo metropolitan area: the maximum-security prison at Abu Za`bal, northeast of the city; the women's prison in Qanater, northwest of Cairo; and three prisons in the Tora complex southeast of CairoCTora Istikbal, Tora Mazraa and the maximum-security Tora Liman. The sixth facility inspected was the general prison and women's jail in Tanta, a city fifty-five miles northwest of the capital. This report is one of a series in which Human Rights Watch, through its Prison Project, has investigated conditions in prisons worldwide. To date, reports have been published on Brazil, Czechoslovakia, India, Indonesia, Israel and the

Israeli-occupied territories, Jamaica, Mexico, Poland, Romania, Spain, Turkey, the former Soviet Union, the United Kingdom and the United States. A report on prison conditions in South Africa will be published later this year.

Title: *Egypt: Violations of Freedom of Religious Belief and Expression of the Christian Minority.* London: Vol. 6, No. 2. November 1, 1994 Report

Author(s) Human Rights Watch

Abstract

The Egyptian Constitution proclaims Islam the state religion, but also guarantees to all citizens freedom of belief and freedom to practice religious rites. The Egyptian government's obligations under international law further require that the follower of any faith be afforded freedom of religion, including the freedom "either individually or in community with others and in public or private, to manifest his religion or belief in worship, observance, practice and teaching." These rights are set forth in Article 18(1) of the International Covenant on Civil and Political Rights, which Egypt has ratified. Egyptians do not all have equal enjoyment of these rights, however. Muslims cannot convert legally to another faith, while Christians can legally convert to Islam. The children of Muslim converts to Christianity remain Muslims on official documents such as identity cards. Marriages between Muslim women and Christian men are not legally recognized. Christians suspected of proselytizing Muslims are dealt with harshly by security forces, while efforts by Muslims to convert citizens to Islam are unimpeded -- if not encouraged -- by the state.

Title: *Trials of Civilians in Military Courts Violate International Law: Executions Continue, No Appeal of Death Sentences to Higher Court.* London: July 2, 1993 Report

Author(s) Human Rights Watch

Abstract In a major shift of policy, the Egyptian government in October 1992 began to try in military courts civilians accused of "terrorism" offenses, bypassing the security-court system staffed by civilian judges that has been in place under Egypt's long-standing emergency law. President Hosni Mubarak said that he would use military courts "in cases that require quick measures." Since the trials started last year, the proceedings have been conducted swiftly by Supreme Military Courts sitting in Alexandria and Cairo. Sentences have been harsh. The death penalty has been imposed on a total of twenty-three men, and executions by hanging began last month. As of the date of publication of this newsletter, nine of the condemned men have been executed, including seven who were hanged on July 8, 1993.

Title: *The Continued Costs of Political Stagnation in Egypt.* Carnegie Endowment for International Peace, Democracy & Rule of Law Project, February 2005.

Author(s) Amr Hamzaw

Abstract Recent events in Egypt are again proving that far from championing democratic reforms, the Egyptian government continues to consolidate its own power. The January 29, 2005, arrest of Ayman Nour, a member of the Egyptian People's Assembly and leader of the newly legalized liberal political party, Al Ghad (Tomorrow), serves as yet another example of Egypt's persistent semi authoritarianism. Police authorities arrested Nour after his parliamentary immunity was stripped from him that same day. The Supreme State Security Office accused him of forging almost 2,000 signatures on his party petition for legalization submitted to the government's Committee for Party Affairs early in 2004. Nour denied the charges, characterizing them as politically motivated. On January 31, a lower court in Cairo extended his detention another forty-five days. Nour's detention, which attracted international attention, came amid a wave of arrests that included nine (alleged) members of the banned Muslim Brotherhood and three young activists of secular human rights organizations. The first group was accused of conducting subversive activities against the Egyptian state (the usual official language used whenever Muslim Brothers are imprisoned), but the three human rights activists were arrested at the annual Cairo Book Fair while peacefully distributing materials that called for substantial constitutional and political reforms.

The circumstances surrounding Nour's arrest and its timing shed light on two major dilemmas of the current political situation in Egypt: the undemocratic nature of the ruling regime and the structural weakness of opposition parties and movements. The first round of the so-called National Dialogue between the ruling National Democratic Party (NDP) and the fourteen opposition parties took place between January 31–February 2, 2005, and was intended to discuss issues of legal and political reforms. It did not, however, yield any concrete results.

Title: *Social Vulnerability Analysis of the Health Sector Reform Program Assistance in Egypt*. Technical Report No. 5, Volume III. Health Policy and Sector Reform Division; Office of Health and Nutrition: Center for Population, Health and Nutrition. Bureau for Global Programs, Field Support and Research, United States Agency for International Development. July 1996.

Author(s) Denise DeRoeck, Heba Nassar, David Hotchkiss, and James Knowles

Abstract This report, written for the United States Agency for International Development-funded Partnerships for Health Reform Project, examines the likely impact on socially vulnerable groups of the various health policy reform strategies proposed for the government of Egypt's National Health Sector Policy Reform Agenda. The report also identifies steps to maximize the policy reform benefits and minimize disadvantages for the socially vulnerable that the report identifies as the poor, residents of disadvantaged rural areas, and female-headed households, with a specific focus on women and children. The

analysis concentrates on four primary effects in the government of Egypt's draft policy reform agenda: (1) cost recovery in Ministry of Health and Population facilities, (2) redirecting ministry resources from hospital-based curative care to primary and preventive health, (3) reallocating ministry personnel and other resources from geographic areas of underutilization and excess supply to needy areas, and (4) improving and expanding national health insurance.

Title: **The Risks and Macroeconomic Impact of HIV/AIDS in the Middle East and North Africa: Why Waiting to Intervene Can Be Costly.** POLICY RESEARCH WORKING PAPER 28 74. The World Bank, Middle East and North Africa Region -Human Development Group August 2002.

Author(s) *David A. Robalino, Carol Jenkins, Karim El Maroufi*

Abstract The authors develop a model of optimal growth to assess the risks of an HIV/AIDS epidemic and the expected economic impact in nine countries in the Middle East and North Africa region – Algeria, Djibouti, Egypt, Iran, Jordan, Lebanon, Morocco, Tunisia and Yemen. The model incorporates an HIV/AIDS diffusion component based on two transmission factors –sexual intercourse and exchange of infected needles among intravenous drug users. Given high levels of uncertainty on the model parameters that determine the dynamics of the epidemic and its economic impact, the authors explore large regions of the parameter space. The prevalence rates in year 2015 would be below 1 percent in 16 percent of the cases, while they would be above 3 percent in 50 percent of the cases. On average, GDP losses across countries for 2000-2025 could approximate 35 percent of today's GDP. IN all countries it is possible to observe scenarios where loses surpass today's GDP. The authors quantify the impact of expanding condemn use and access to clean needles for intravenous drug users. They show that these interventions act as an insurance policy that increases social welfare. They also show that delaying action for five years can cost, on average, the equivalent of six percentage points of today's GDP.

Title: ***Environmental Health Risks Reduction in Rural Egypt: A Holistic Ecosystem Approach.*** Unpublished manuscript, ND.

Author(s) **Fawzy M. Kishk, Hesham M. Gaber, and Salwa M. Abdallah**

Abstract The problem to be addressed in this paper is related to environmental health risks in rural Egypt originating from ecosystem degradation caused by factors such as improper ecosystem management and serious contamination with agricultural, industrial, and domestic wastes. The end result of the dominance of such resource degradation factors is the creation of an *unhealthy ecosystem*, a main cause for the prevailing poverty and poor health. To tackle the poverty/poor health/ecosystem degradation nexus, a *holistic ecosystem management approach* is required. The authors of this article are advocates of

the use of this holistic ecosystem approach-- that was developed and articulated by many researchers over the past two decades-- to the management of ecosystem resources in rural Egypt. We believe that deficiency in the use of *multidisciplinary, participative, and gender-sensitive* research approach in Egypt has minimized the expected impact of the research outcomes in the past. Our interdisciplinary research team is currently employing such approach to develop, test, validate, and communicate ecologically judicious resource management interventions and policies aimed at reducing the environmental health risks and consequently enhancing community health and wellbeing. The development of these interventions is to be based on a comprehensive understanding of the ecosystem components, i.e., the physical environment, the community, and the economy as well as the dynamics between them. We believe that through employing such approach with full participation of the community and other stakeholders, our team will have a better chance to help empower the community to improve their health and well-being. A case study from our own research in El-Faiyoum province is presented to illustrate how this holistic ecosystem management approach is being applied.

IV Poverty

Title: *The Gender Dimensions of Poverty in Egypt.* Cairo: ERF working papers No. (2001).

Author (s) El-Laithy, H.

Abstract: Gender dimensions of poverty are addressed, using the recent Household Expenditure, Income and Consumption Survey of 1999/2000 for Egypt. Disparities between males and females living in poor households were assessed. Poverty measures of males and females were found to be significantly different, in both urban and rural areas, where higher levels are observed among females than males. Poverty is more prevalent in Upper Egypt, where poverty measures are twice as large as the national level. The poor, both men and women are uneducated, out of labor force or unemployed, work in the private sector, have higher percentage of child labor. According to logistic regression, females are more likely to be poor than males, holding other factors constant. The probability of being poor increases as the number of individuals who work in agriculture or services and/or are illiterate increases. Female-headed households are smaller in size, have lower individual per earner ratio, and higher per capita expenditure and income.

Title: *The Distribution of Gender Differentials and Public Sector Wage Premia in Egypt: Evidence from Establishment Level Data.* Cairo: ERF Working Papers No. (1990)

Author(s) Mona Said

Abstract: Using earnings functions estimates on an Egyptian establishment-level survey conducted in 1990, standard decomposition techniques of wage differentials show that both males and females have an earning disadvantage in the public enterprise and government sectors after correcting for a range of personal and job characteristics. Gender based pay discrimination is small in the public sector. In contrast, it is quite high by international comparisons in the private sector and takes place mainly by paying a pure rent premium to men. Further decomposition of the gender gap into components attributable to intra-occupational pay discrimination and inter occupational segregation reveal that the unexplained component is even higher at about 82 % of female pay in the private sector, with a large proportion (34.7% of female pay) attributable to segregation or entry barriers facing females in certain occupations. Quintile regression methods were used to examine the distribution of wage premia across occupations and wage quintiles. The results show that public sector wage premia exist only at the lower level of the wage distribution and drop at the higher levels turning into a negative differential for both males and females. The greatest public sector pay penalty appears to be in the high wage echelons of specialized occupations in the government. Gender-based pay discrimination is highest in the private sector for the low wage quintiles of unskilled workers and higher wage groups in technical and managerial positions. The papers results highlight the need to reform pay policy in the government and the expected disproportionate impact of privatization and civil service reform on women in the Egyptian labor market.

Title: *Do Workers Pay for Social Protection? An Analysis of Wage Differentials in the Egyptian Private Sector.* Cairo: ERF Working Papers No.

Author(s) Ragui Assaad

Abstract: This paper examines whether private employers are able to pass the cost of protective social regulations to their workers in the form of lower wages. I answer this question by decomposing wage differentials between protected and unprotected workers into components explained by differences in observable characteristics and unobserved heterogeneity and an unexplained component. I conclude that, while there are positive compensating differentials for employment instability and work outside fixed establishments, unprotected workers are not compensated for the lack of social protection. In fact, protected workers appear to receive positive wage premia, primarily in the form of higher returns on their human capital. I also find that the additional cost of female-specific protections is not passed on to protected female workers in the form of lower wages, suggesting that it may instead limit female employment in that sector.

Title: *Interpreting Household Budget Surveys: Estimates for Poverty and Income Distribution in Egypt.* Cairo: ERF Working Papers No.

Author(s) Ulrich Bartsch

Abstract: Comparing Household Expenditure Survey data (1990/1991) for Egypt with expenditures in the national accounts, the study shows that Survey figures fall considerably short of the national accounts. The extent to which alternative assumptions for adjustments change inequality and poverty estimates is shown. Results of the study imply that poverty in Egypt affects between 43 and 49 per cent of the population, or up to 28 million people. This is much higher than stated in the literature, and it is shown that inequality is much more serious than commonly thought. Earlier estimates would seem to be based on a distortive calculation of per capita expenditure data, and failed to acknowledge the gap between Survey and national accounts.

Title: *Poverty and economic growth in Egypt, 1995-2000, Volume 1.* Policy Research Working Paper. WP No. 3068. Wash. D.C.: The World Bank. 2003

Author(s) Banerji, Arup; Lokshin Michael; El-Laithy, Heba;

Abstract: After a decade of slow economic growth Egypt's rate of growth recovered in the late 1990s, averaging more than five percent a year. But the effect of this growth on poverty patterns has not been systematically examined using consistent, comparable household datasets. In this paper, the authors use the rich set of unit-level data from the most recent Egyptian household surveys (1995-96 and 1999-2000) to assess changes in poverty and inequality between 1995 and 2000. Their analysis is based on household-specific poverty lines that account for the differences in regional prices, as well as differences in the consumption preferences and size and age composition of poor households. The results show that average household expenditures rose in the second half of the 1990s and the poverty rate fell from 20 percent to less than 17 percent. But, in addition to the ongoing divide in the urban-rural standard of living, a new geographical/regional divide emerged in the late 1990s. Poverty was found predominantly among less-educated individuals, particularly those working in agriculture and construction, and among seasonal and occasional workers. These groups could suffer the most from the slowing economic growth evident after 1999-2000.

Title *Social Expenditure and the Poor in Egypt.* Cairo: ECES WP No. 89. November 2003.

Author(s) Ahmed Galal

Abstract: The purpose of this paper is threefold: (i) to assess the effectiveness, efficiency and equity of public expenditure on education, health and food subsidy programs in Egypt, (ii) to broadly analyze reform approaches of these sectors, and (iii) to make policy recommendations for Egypt accordingly. The paper shows that the Egyptian government is committed to providing education and health services and to protecting the poor. However, it argues that on-going reform efforts follow the least rewarding approach. In particular, the current approach relies heavily on increasing and/or improving

the quality of inputs rather than on aligning incentives with desired outcomes and enhancing accountability. A shift in approach is therefore suggested, along with concrete measures to improve incentives, empower beneficiaries, and strengthen accountability.

Title: *Earnings and Regional Inequality in Egypt.* Cairo: ERF Working Papers No.

Author(s) Jackline Wahba

Abstract: This paper presents an empirical investigation of the determinants of labor market earnings inequality in Egypt. Using the Human Capital model, the determinants of regional earnings are examined. The relative importance of individual and regional effects on earnings inequality is assessed. This paper finds that the estimated rates of return to education increase with rising educational levels. This is different to common patterns found in most developing countries. Also, there are substantial variations in returns to education across regions. Moreover, estimates point to the importance of credentials in the Egyptian labor market.

Title: *The Distribution of Gender Differentials and Public Sector Wage Premia in Egypt: Evidence from Establishment Level Data.* Cairo: ERF Working Papers No. (1990)

Author(s) Mona Said

Abstract: Using earnings functions estimates on an Egyptian establishment-level survey conducted in 1990, standard decomposition techniques of wage differentials show that both males and females have an earning disadvantage in the public enterprise and government sectors after correcting for a range of personal and job characteristics. Gender based pay discrimination is small in the public sector. In contrast, it is quite high by international comparisons in the private sector and takes place mainly by paying a pure rent premium to men. Further decomposition of the gender gap into components attributable to intra-occupational pay discrimination and inter occupational segregation reveal that the unexplained component is even higher at about 82 % of female pay in the private sector, with a large proportion (34.7% of female pay) attributable to segregation or entry barriers facing females in certain occupations. Quintile regression methods were used to examine the distribution of wage premia across occupations and wage quintiles. The results show that public sector wage premia exist only at the lower level of the wage distribution and drop at the higher levels turning into a negative differential for both males and females. The greatest public sector pay penalty appears to be in the high wage echelons of specialized occupations in the government. Gender-based pay discrimination is highest in the private sector for the low wage quintiles of unskilled workers and higher wage groups in technical and managerial positions. The paper's results highlight the need to reform pay policy in the

government and the expected disproportionate impact of privatization and civil service reform on women in the Egyptian labor market.

Title: *Cross-Country Comparison: Construction of the Consumer Price Index (CPI)*. Cairo: ECES WP No. 20. November 1997.

Author(s) Hala Fares

Abstract: The Consumer Price Index (CPI) is an instrument designed to measure changes over time in the prices paid by households for goods and services which are customarily purchased for consumption. Its principal objective is to reflect only pure price movement.” That is to say, price changes due to quality differences, technological innovations, and different package sizes would not be reflected in the CPI figure as normal price movements. It is thus important to ask: which prices should be recorded to measure pure price movements; which basket of goods and services represents the average consumption of an urban household; and how is this ‘median’ household unit defined? These are critical questions in constructing the CPI. This paper addresses these questions by comparing how different countries construct their CPI. The countries of comparison are Chile, Egypt, Japan, Korea, Mexico, the United Kingdom and the United States. The choice of countries was made to include developed as well as developing nations. The objective of the comparison is not to come up with an ideal way of constructing a CPI, but rather to learn from other countries’ experiences how to improve the way Egypt constructs its CPI.

Title: *Globalization, Consumption Patterns and Human Development: The Case of Egypt*. Cairo: ERF Working Papers No. 29, 1999.

Author(s) Galal Amin

Abstract: Although the last three decades represent only the most recent episode of Egypt’s ‘opening up to the world’, their impact on the Egyptian economy and society seems much wider and goes much deeper than anything that Egypt had experienced before, this justifies the use of the relatively new term ‘globalization’. The economic impact of this process of globalization involves the rates of consumption, investment and income growth, the distribution of income and consumption patterns, the rate of unemployment and the degree of satisfaction of basic needs. Its impact also extends to touch aspects of the quality of life that are not economic, but are major determinants of human development such as the quality of the environment, the sense of cultural identity and the limits of state power. This paper discusses the impact of globalization on only those aspects that could be regarded as major indicators or determinants of Human Development.

Title: *Civil Service Wages and Reform: The Case of Egypt*. Cairo: ECES WP No.

98. May 2004.

Author(s) Heba Handoussa and Nivine El Oraby

Abstract: This paper analyzes the causes and ramifications of excessive civil service employment in Egypt and makes recommendations for future reforms. It attributes the problem to past policies, which combined guaranteed government employment for all graduates of intermediate and higher education together with free schooling for all. These policies led to an excessive demand for education, deterioration of its quality and a mismatch between the supply and demand for labor. At the same time, the government wage bill has become a budgetary burden, despite a decline in productivity and real wages of civil service employees. To mitigate these adverse effects without compromising on equity and social stability, the paper advocates a new social contract that breaks away from past policies. The new social contract will address the civil service problem through rapid economic growth, a better human development strategy, and a host of other measures that go beyond simply reducing the number of employees or their wages.

Title *The Efficiency and Equity of Subsidy Policy in Egypt*. Cairo: ECES WP No. 105. November 2005. (Only available in Arabic).

Author(s) Omneia Helmy

Abstract: This study assesses the efficiency and equity of the current subsidy policy in Egypt and offers options for reform. It shows that current implicit and explicit subsidies of commodities and social services have contributed to poverty alleviation. However, this has been achieved at a high cost, including increased burden on the treasury, price distortions and commodity arbitrage, and leakage of subsidies to non-target groups. To reform the current subsidy policy, the paper suggests better targeting and pricing mechanisms, and more efficient and equitable public spending on social services. Better yet, it makes the case for a gradual shift away from price-based subsidy to conditional cash transfers and a new wage policy.

Title: *Do Workers Pay for Social Protection? An Analysis of Wage Differentials in the Egyptian Private Sector*. Cairo: ERF Working Papers No.

Author(s) Ragui Assaad

Abstract: This paper examines whether private employers are able to pass the cost of protective social regulations to their workers in the form of lower wages. I answer this question by decomposing wage differentials between protected and unprotected workers into components explained by differences in observable characteristics and unobserved heterogeneity and an unexplained component. I conclude that, while there are positive compensating differentials for employment instability and work outside fixed establishments, unprotected workers are not compensated for the lack of

social protection. In fact, protected workers appear to receive positive wage premia, primarily in the form of higher returns on their human capital. I also find that the additional cost of female-specific protections is not passed on to protected female workers in the form of lower wages, suggesting that it may instead limit female employment in that sector.

Title: *Interpreting Household Budget Surveys: Estimates for Poverty and Income Distribution in Egypt.* Cairo: ERF Working Papers No.

Author(s) Ulrich Bartsch

Abstract: Comparing Household Expenditure Survey data (1990/1991) for Egypt with expenditures in the national accounts, the study shows that Survey figures fall considerably short of the national accounts. The extent to which alternative assumptions for adjustments change inequality and poverty estimates is shown. Results of the study imply that poverty in Egypt affects between 43 and 49 per cent of the population, or up to 28 million people. This is much higher than stated in the literature, and it is shown that inequality is much more serious than commonly thought. Earlier estimates would seem to be based on a distorted calculation of per capita expenditure data, and failed to acknowledge the gap between Survey and national accounts.

Title: *Opening up and Distribution in the Middle East & North Africa: The Poor, The Unemployed and The Public Sector.* Cairo: ERF Working Papers No.

Author(s) I. Diwan & M. Walton

Abstract: The paper reviews the links between long-run growth patterns, the process of opening up, and the effects on income distribution. Three themes are developed. First, the historical pattern of development brought dividends to all until the end of the oil boom, but is now bankrupt and is a potential disaster for poverty and employment. Second, much of the region is on a knife edge between two options: opening to trade combined with public sector reform and hanging on to the old path and social contract. Risks are attached to both paths, but the first can lead to robust and broad employment growth in the medium term, while hanging on to the old path is likely to lead to sharpened distributional conflicts. Third, sequencing of policy reforms matters: the best sequence is to open first, and undertake employment-reducing public sector reform afterwards.

Title *Self-targeted subsidies - the distributional impact of the Egyptian food subsidy system, Volume 1.* [Policy, Research working paper; no. WPS 2322.](#) Wash. D.C.: The World Bank. 2000.

Author(s) Richard Adams

Abstract: The Egyptian food subsidy system is an untargeted system that is essentially open to all Egyptians. For this reason, the budgetary costs of this system have

been high, and the ability of this system to improve the welfare status of the poor has been questioned. Since the food riots of 1977, Egyptian policymakers have been reluctant to make large changes in their food subsidy system. Rather, their strategy has been to reduce the costs and coverage of this system gradually. For example, since 1980 policymakers have reduced the number of subsidized foods from 20 to just four. Despite these cutbacks, the author uses new 1997 household survey data to show that the Egyptian food subsidy system IS self-targeted to the poor, because it subsidizes "inferior" goods. In urban Egypt, for instance, the main subsidized food - coarse baladi bread - is consumed more by the poor (the lowest quintile group of the population) than by the rich (the highest quintile). So subsidizing baladi bread is a good way of improving the welfare status of the urban poor. But in rural Egypt, where the poor do not consume so much baladi bread, the poor receive less in income transfers than the rich. In many countries, administrative targeting of food subsidies can do a better job of targeting the poor than self-targeting systems. In Jamaica, for example, poor people get food stamps at health clinics, so the Jamaican poor receive double the income transfers from food subsidies than the Egyptian poor receive. But starting a comparable system in Egypt, would be costly both in financial, and political terms, because many non-poor households currently receiving food subsidies would have to be excluded. For these reasons, it is likely that the government will continue to refine the present food subsidy system, perhaps by eliminating current subsidies on sugar or edible oil. Neither of these foods is an "inferior" good, so eliminating these subsidies will have only a minimal impact on the welfare status of the poor.

Title *Non-farm income, inequality, and poverty in rural Egypt and Jordan, Volume 1.* Policy, Research Working Paper; No. WPS 2572. Wash. D. C.: The World Bank. 2001.

Author(s) Richard Adams

Abstract: The rural economy of developing countries has long been regarded as synonymous with agriculture but in recent years this view has begun to change. Such diverse activities as government, commerce, and services are now seen as providing most income in rural households. Applying decomposition analysis to two new nationally representative sets of household data from Egypt and Jordan, the author examines how different sources of income--including non-farm income--affect inequality in rural income. He concludes: 1) Non-farm income has different impacts on poverty and inequality in the two countries. In Egypt the poor (those in the lowest quintile) receive almost 60 percent of their per capita income from non-farm income. In Jordan the poor receive less than 20 percent of their income from non-farm income. So non-farm income decreases inequality in Egypt and increases it in Jordan. 2) Access to land accounts for this difference between the two countries. In Egypt the cultivated land base is totally irrigated and very highly productive. Egypt's large rural population seeks access to land but because the land-to-people ratio is so unfavorable, only a minority of rural

inhabitants actually own land. The rest--especially the poor--are forced to seek work in the non-farm sector. By contrast, only 30 percent of Jordan's cultivated land base is irrigated and crop yields are low. So Jordan's rural population does not press for access to land because the attractive economic rates of return are found in the non-farm sector. Unlike Egypt's rich, rural Jordan's rich earn less than 10 percent of their total per capita income from agriculture and more than 55 percent of it from non-farm sources. 3) The poor in both countries depend heavily on government employment to decrease inequality. Government wages provide 43 percent of non-farm income for Egypt's rural poor and 60 percent of Jordan's. But since both governments already employ far more workers than they can possibly use, advocating increased government employment to reduce inequality would not be wise policy advice. From a policy standpoint, it would be better to reduce income inequality by focusing on non-farm unskilled labor (for example, in construction, brick-making, and ditch-digging), an important income source. 4) In Egypt non-farm income decreases inequality because inadequate access to land "pushes" poorer households out of agriculture and into the non-farm sector. Although agricultural income is positively associated with land ownership in rural Egypt, that ownership is unevenly distributed in favor of the rich, so non-farm income is not linked to land ownership and is thus more important to the rural poor.

Title *A NEW METHODOLOGY FOR COMPARATIVE ANALYSIS OF POVERTY IN THE MEDITERRANEAN: A MODEL FOR DIFFERENTIAL ANALYSIS OF POVERTY AT A REGIONAL LEVEL.* Cairo. ERF Working Papers No. 23, 2000.

Author(s) Carla Collicelli & Massimiliano Valerii

Abstract: Over the last few decades, several studies have pointed out the multidimensional nature of poverty. Poverty suggests a hardship that is not solely confined to lack of the monetary resources necessary to maintain adequate living standards. The paper aims to propose a model for the differential analysis of poverty in the MENA countries through the Principal Components Analysis (PCA), in order to provide a correct definition of the different profiles of the phenomenon within different regional contexts. In the presence of complex phenomena, the peculiarity of PCA is to identify the main dimensions of the latent sense model, which determines the relationships between variables and indicators.

Title *Pension System Reform in Egypt.* Cairo: ECES WP No. 94. March 2004.

Author(s) Omneia Helmy

Abstract: This paper analyzes the pension system in Egypt, with the purpose of making a set of proposals for reform, taking into account the interests of employees,

pensioners, and the national economy. The paper finds that although the current pension system has many advantages and is not facing financial difficulties, there is a need to increase its economic efficiency and enhance its long-term financial sustainability. Drawing on international experience, the paper offers a number of concrete proposals for Egypt. In the short run, it suggests changes in the benefits and contributions structure, developing an automatic pension indexation mechanism, and modifying current legislation to allow for the efficient investment of pension funds. In the medium and long runs, the paper stresses the need for a gradual shift toward a fully-funded defined-contribution pension system, while maintaining the role of the state in protecting the poor, preserving pensioners' rights, and developing the necessary legal and regulatory frameworks.

Title **ELIMINATION OF POVERTY: CHALLENGES AND ISLAMIC STRATEGIES** Keynote Address presented at the 4th International Conference on Islamic Economics and Banking, "Islamic Finance: Challenges and Opportunities in the 21st Century." Venue: Loughborough University, Loughborough, UK (August 13–15, 2000). Republished, Cairo ERF Working Paper No. 18, 2000.

Author(s) Ismail Sirageldin

Abstract: Poverty is a complex phenomenon, a consequence of lack of growth and inequality. Effective policies require technical and empirical understanding of poverty that is combined with efficient institutions and a supportive system of social values. The paper focuses on four basic tenants of the Islamic ethical system and treats the Islamic ethos as an ideal, through which socioeconomic policies dealing with poverty elimination are assessed. Islam views society as a unified entity in which individual freedom and human dignity is supreme although subject to the axiom of responsibility. These ethical tenants indicate that policies should not develop 'dependency,' amoral activities, or lead to the institutionalization of poverty. Policies based on transfers that do not lift the poor from their dependency status should be avoided except in cases where such shift is not feasible. Based on the conceptual and empirical evidence, the paper concludes that Islamic ethics support a poverty-alleviation strategy based on the principle of promoting economic growth with productive equity.

Title **LABOR MARKET, URBAN POVERTY AND PRO-POOR EMPLOYMENT POLICIES.** A summary of a paper presented at the conference on "Socio-economic Policies and Poverty Alleviation in Egypt" organized by the Center for Economic and Financial Research and Studies, the United Nations and the Social Fund for Development in cooperation with the Social Research Center (AUC). Republished, Cairo: ERF Working Paper No. 36, 2000

Author(s) Heba Nassar and Heba El Laithy

Abstract: The main objectives of this paper are: to study the relationship between urban poverty and the labor market by constructing a poverty index using factor analysis on the data of the Survey " Socioeconomic conditions of Work in Greater Cairo". The survey was conducted by the Social Research Center in 1998. The sample of the survey totals 3294 households in Cairo as well as urban areas in Qalyubia and Giza. The survey includes four modules: the household module, the individual module, the self employed module and the children module to study the work characteristics of the poor versus non poor using the data of the field survey to study the relative importance of different factors in determining the welfare status of the different categories using logistic regression to propose pro-poor employment policies.

The structure of the labor market is thought by the authors to be one of the underlying causes to poverty. Differences in the overall levels in labor productivity, in jobs and rewards, unequal access to work of any sort, limited possibilities for labor supply may lead to poverty. Furthermore, employment characteristics may be a significant determinant of poverty. Lack of skills or assets required for job access, lack of protection through legal regulations or collective organization, irregularity and insecurity in work may lead to poverty as well.

The two sided relationship between poverty and labor market indicates that the following work status are usually considered the vulnerable groups in the labor market: unprotected wage labor including casual labor, domestic service, irregular wage workers, self employment in micro business, workers in marginal activities- mainly low productivity work- such as street sellers, family worker (unpaid work) and unemployed. These categories enter easily into the poverty trap through their status in the labor market.

Title *Comparing Multidimensional Poverty between Egypt and Tunisia.* Centre Interuniversitaire sur le Risque, les Politiques Economiques et l'emploi (CIRPEE) and Faculte des Sciences Economiques et de Gestion de Tunis (FSEGT), 2003.

Author(s) Sami Bibi

Abstract: It is common to argue that poverty is a multidimensional issue. Yet few studies have included the various dimensions of deprivation to yield a broader and fuller picture of poverty. The present paper considers the multidimensional aspects of deprivation by specifying a poverty line for each aspect and combines their associated one-dimensional poverty-gaps into multidimensional poverty measures. An application of these measures to compare poverty between Egypt and Tunisia is illustrated using robustness analysis and household data from each country.

Title Dead Capital and the Poor in Egypt (Vol. I and II). Distinguished Guest Lectures Series. No. 11. Cairo: ECES. December 1997.

Author(s) Hernando de Soto

Abstract: There is the widespread view that the benefits of economic reform programs are not shared by the majority -- especially the poorest. This skepticism also surrounds the "trickle down" approach to solving the problem of poverty and the social safety nets instituted to treat it. What should be done to counter this pessimism and generate a viable reform process?

The best solution to date seems to be the East Asian model of economic growth, characterized by labor intensive export-oriented strategies and government expenditure on primary education and health services. In this publication, Hernando De Soto advocates another. He argues that the poor in developing countries own more assets than is generally believed. But this capital is "dead" because its ownership cannot be readily traced, validated, and exchanged legally. As a result, the poor cannot use their assets in efficient and legally secured market transactions, like securing a bank loan or guaranteeing the payment of water, electricity, or other infrastructure services. De Soto asserts that a formalization process would benefit both the poor and society at large.

Is this true for Egypt? De Soto presents surprisingly large numbers: 92 percent of real estate and land in the urban sector and 87 percent in the rural sector in Egypt are informal -- over 70 percent of which belong to the poor. This is equivalent to some US\$240 billion of dead capital, suggesting that a process of formalization would do much to eradicate poverty and strengthen support of economic reforms.

Title *The Poverty-Growth-Inequality Triangle: With Some Reflections on Egypt.* Distinguished Guest Lectures Series. No. 22. Cairo: ECES. March 2005.

Author(s) François Bourguignon

Abstract: A recurring issue in discussions on development is whether the main focus should be placed on growth, poverty or inequality. In this distinguished lecture, François Bourguignon argues that the focus on the links between economic growth and poverty on one hand, and income distribution and poverty on the other is misplaced. He makes a compelling case that to achieve the goal of rapid poverty alleviation; the focus should be on implementing effective and country-specific combinations of growth and distribution policies.

In addition, Mr. Bourguignon draws some implications for Egypt, stressing that a pro-poor growth strategy will need to focus on increasing current earnings through growth and employment, increasing future earnings through education, and last but not least, protecting the vulnerable through social safety nets.

Title *Poverty and Labor Supply of Women: Evidence from Egypt.* Paper presented to the tenth Annual Conference of the Economic Research Forum (ERF), Marakkesh: 16-18 December 2003.

Author(s) Fatma El-Hamidi

Abstract: This study investigates the behavior of labor supply of women at different levels of poverty. It is widely demonstrated in the literature that variables such as age and level of education, as well as the demographic, social, and financial characteristics of the household affect the decision of labor supply. However, this study argues that these determinants work differently according to the poverty level or the well being of the household, adding another dimension to the literature on the female labor supply in MENA. The author starts with the assumption that participation of women in the labor market is governed by social and traditional gender roles, as well as economic factors. This assumption is validated only when household income is above the household poverty line. When household income falls below the poverty line, only economic factors dominate the decision to join the labor market. Women below the poverty line are pressed by economic hardships and are expected to work more than those above the poverty line, i.e., they have negative elasticity of labor supply, unlike what the classical labor supply theory claims of positive labor supply elasticity at low wage levels (upward sloping portion of the canonical model). Several policy implications emerge from negative labor elasticity: the need to impose a minimum wage in order to avoid repeated cycles of poverty, in addition to providing specialized training and education programs.

Title *POVERTY, HUMAN CAPITAL AND GENDER: A comparative Study of Yemen and Egypt.* Workshop on the Analysis of Poverty and Its Determinants in the Middle East and North Africa, Sana'a: July 31-August 1, 2001.

Author(s) Safaa E. El-Kogali and El Daw A. Suliman

Abstract: The objective of this study is to examine the impacts of poverty on children's health status and educational attainment in Yemen and Egypt. To observe the links between poverty, early childhood health status and educational attainment, the target age group will be 0 to 15 years. The hypothesis is children from poor families; particularly girls have lower health status, lower educational attainment, and are most likely to engage in child labor. We will test for wealth and gender inequalities in educational attainment and health status of children. This paper is organized as follows: Section one offer findings of earlier studies and a brief background on the two respective countries. Section two presents the data and analytical methods used. Section three focuses on the links between poverty and education and section four discusses the association between poverty and child health. Finally, section five presents concluding remarks and policy recommendations.

Title *The Impact of Alternative Development Strategies on Growth and Distribution: Simulations with a Dynamic Model for Egypt.* Paper prepared

for the ERF workshop on “The Analysis of Poverty and its Determinants in the Middle East & North Africa” Sana’a: July 31 –August 1, 2001.

Author(s) Moataz El-Said, Hans Löfgren and Sherman Robinson

Abstract: The paper uses a dynamically recursive computable general equilibrium (CGE) model to analyze the economy-wide growth and distribution effects of alternative development strategies for Egypt. For the benchmark scenario (BASE), we assume that the Egyptian economy continues to follow its current growth path. In alternative scenarios, we consider exogenous improvements in technological progress under two types of development approaches. One is a targeted sector development strategy, and the second is a more broad based development strategy. Under the first development approach three sectors are separately targeted: agriculture, food processing, and textiles. The sectoral choice represents alternative development strategies which we label (i) agricultural-demand-led industrialization (ADLI); (ii) food-processing-based (FOOD); and (iii) textile-based industrialization (TEXTILE). Under the second approach a balanced development strategy (BAL) is adopted where the technological advancement is evenly distributed among the three sectors and takes place simultaneously. The analysis focuses on the pattern of growth and on two measures of income inequality – the Theil and the Atkinson measures which are compared to the benchmark growth path (BASE). The reported results were carried under two different elasticities of transformation for agriculture output between domestic and export markets: low elasticity and perfect transformability. The degree of transformability has significant growth and distributional implications. In the case of low elasticity, the TEXTILE strategy is pro-growth and more egalitarian, while ADLI generates a combination of more rapid growth and increasing inequality. Under perfect transformability, ADLI strategy dominates in terms of rapid growth and reduced inequality. The sensitivity of the results to the value of the elasticity of transformation implies that improved access to international markets for textiles and agricultural exports is crucial for achieving rapid and egalitarian growth for the Egyptian economy.

Title Globalization, E.U. Partnership and Income Distribution in Egypt. Cairo. ECES. Working papers No. 12, March 1997.

Author(s) Ishac Diwan,

Abstract: The Mediterranean Partnership initiative was launched by the European Union (EU) in 1994 to achieve deeper regional integration - particularly through developing an area of free trade and cooperation—among the countries of Europe, the Middle East, and North Africa. This paper addresses questions on the effect of a free trade agreement (FTA) with the EU on income distribution in Egypt. The paper asks how the FTA - interpreted here as a first step towards global integration - can help to redress negative distribution effects related to globalization, and thus facilitates the social

transition towards a more open economy. It reviews initial conditions and past policies in Egypt; analyzes the effects of trade liberalization and globalization of capital markets on income distribution; and discusses policy interventions that may, with EU assistance, help reduce the negative impact of globalization.

Title *Poverty Mapping for selected African Countries.* Economic Commission of Africa. Addis Ababa: April 2003.

Author(s) Elizabeth Woldmariam and Limia Mohamed

Abstract: A first attempt to present poverty maps of African countries based on secondary data collected from various sources. This volume includes data from eleven African countries. Data presentation using maps, tables and few commentaries.

Title *The Analysis of Poverty and its Determinants in the Middle East & North Africa.* Workshop organized by ERF, Sana'a: July 31 –August 1, 2001.

Author(s) Several

Abstract: The papers presented in this workshop cover the situation of the poor in several Middle Eastern countries. The workshop provides a comparative perspective on poverty, however most relevant to our purposes are those concerned with Egypt and the Sudan.

Title *Poverty and Poverty Alleviation Strategies in Egypt.* Cairo: Cairo Papers in Social Science. Vol. 22, No. 1, The American University in Cairo Press. 1999.

Author(s) Raguie Assaad and Malak Rouchdy.

Abstract: This monograph is based on interviews conducted in October 1997 with over 40 NGO leaders, government officials, scholars, activists, and donor representatives and the review of a large number of relevant studies and documents. Chapter 1 reviews and summarizes current knowledge on the nature and distribution of poverty in Egypt, with special emphasis on the processes of exclusion that reproduces poverty. The authors also review in that chapter the state of poverty research institutions to study and analyze the problem, disseminate findings and influence policy debates. Chapter two reviews the major poverty alleviation programs carried out by government, non-government organizations and donor agencies, and attempts to critically assess their impact. Chapter three summarizes the main findings and outlines directions for future research.

Title *Structural Adjustment, Stabilization Policies and the Poor in Egypt.* Cairo: Cairo Papers in Social Science. Vol. 18, No. 4, The American University in

Cairo Press. 1996.

Author(s) Karima Korayem

Abstract: This study attempts to measure the impact of economic reform and structural adjustment policies on Egypt's poor. In addition to attempting to quantitatively define and the poor in Egypt, this volume attempts to identify the mechanisms through which the poor adapt to poverty and their changing patterns of expenditure or incomes. The study falls into four chapters in addition to a brief introduction. The first chapter discusses the incidence of poverty in Egypt. Chapter two examines the impact of structural and stabilization policies on the poor. How the poor adapt make the subject of chapter three. Finally, chapter four suggests ways to minimize the negative impact of the structural adjustment and stabilization policies on the poor.

V Environment

Title *Economic Incentives to Promote the Abatement of Nile Pollution*. Cairo: ECES WP No 4. September 1996.

Author(s) Raouf F. Khouzam

Abstract: Reusing returning water provides Egypt with an escape out of the detrimental effect of water shortage on economic development. However, the degraded quality of returning water forms a serious environmental hazard which, subsequently, limits its reuse. Several legislative and institutional measures have been taken to enhance the quality of the returning water and conserve the water environment, yet those measures have not met the society's aspiration for a clean Nile as they focused on describing technical requirements and imposing sanctions with little, or no, regard to firms' ability to stay competitive in both local and international markets nor to the distribution of the cost burden. This pushed firms to take a negative attitude towards the adoption of the environmental measures. The deficiency of the current policy is dealt with in this research by introducing positive economic incentives to the three most water-polluting activities; namely municipal, agricultural and industrial activities. The effectiveness of this class of policy tools in mitigating water pollution associated with activities and their win-win features have been demonstrated. A guideline describing actions required to incorporate those tools into the current environmental policy is proposed.

Title *Conflict and cooperation in managing international water resources, Volume 1. Policy, Research working paper; no. WPS 1303*. Wash. D. C. The World Bank. 1994

Author(s) Barret, Scott;

Abstract: Water is often not confined within territorial boundaries so conflicts may arise about shared water resources. When such boundaries lie within a federal state, conflicts may be peacefully and efficiently resolved under law, and if the state fails to reach an agreement, the federal government may impose one. Similar international conflicts are more difficult to resolve because no third party has the authority to enforce an agreement among national states, let alone impose one. Such international agreements must be self-enforcing. Efficient outcomes may emerge, but not guaranteed. International law may emphasize the doctrine of "equitable utilization" of water resources, but there is no clear definition of what this implies. In the Colorado River case, the polluter (the United States) agreed to pay for all the costs of providing the downstream neighbor (Mexico) with clean water. In the Rhine River case, the downstream country (the Netherlands) agreed to pay part - but not all - of the costs of cleanup. In Colombia River Treaty case, both parties agreed to incur construction costs on their side of the border and share evenly the gross (not the net) benefit. This division may well have yielded a smaller net benefit to the United States than unilateral development would have, but the United States ratified the treaty. Negotiated outcomes need not to maximize net benefits for all countries. To some extent, inefficiencies can be traced to the desire to nationalize resources rather than to gain from cooperative development. The Indus Waters Treaty, for example, divided the Indus and its tributaries between India and Pakistan, rather than exploit joint use and development of the basin. Both efficiency and equity should be considered in agreements for managing international water resources. The 1959 Nile Waters Agreement between Egypt and Sudan did not reserve water for upstream riparian - notably, Ethiopia. A basin-wide approach could make use of Nile waters more efficient and benefit all three riparian: Egypt, Ethiopia, and Sudan. Construction of dams in Ethiopia would give that country irrigation, would eliminate the annual Nile flood, and would increase the total water available to Ethiopia and Sudan. In negotiations over use of the Nile, the net benefits of basin-wide management, and the ways these three riparian could share equitably in gains, should be demonstrated. In the 1980s, Egypt did not run short of water because Sudan did not take its full allocation and because Ethiopia did not withdraw any water from the basin. Increased water demand will inevitably create tension between the states.

Title *People and Pollution: Cultural Construction and Social Action in Egypt.* Cairo: The American University in Cairo Press. 2001.

Author(s) Nicholas S. Hopkins, Sohair Mehanna, and Salah el-Haggar

Abstract: This study is based on extensive field research with both academic and policy relevance. It seeks to understand how people how people themselves,

who are often the subject of policy, understand their environment and their own actions. The results reveal that the Egyptians are concerned more with matters of environmental degradation such as garbage, sewage, dirty streets, and noise pollution rather than being concerned with issues of global nature like the depletion of the ozone layer, rainforest, and protection of coral reefs common in the west. In addition, the researchers have found that people are often able to effect changes themselves through cooperation with neighbors, thus bypassing the official channels of redress such as NGO's and government officials.

Title *Women's Perception of Environmental Change in Egypt*. Cairo: Cairo Papers in Social Science. Vol. 23, No. 4, The American University in Cairo Press. 2002.

Author(s) Eman El Ramly

Abstract: According to the author, this monograph is an attempt to fill a gap in the sociological literature in Egypt on the interrelationship between gender and the environment. It aims at exploring women's perception of and social responses to environmental change and the mechanisms devised to cope with the consequences perceived changes in urban Egypt. The research also involved comparing the macro level conception of environmental problems with the community shared understanding of environmental problems. The research relied on individual interviews conducted in three quarters of the city: Dar El Salam, Kafr al Elw and Maadi during the summer of 1995.