



Mara River Basin
Transboundary Integrated Water Resources
Management and Development Project

PROJECT DOCUMENT

Nile Basin Initiative
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TABLE OF CONTENTS

TABLE OF CONTENTS	I
ACRONYMS AND ABBREVIATIONS.....	I
1.0 EXECUTIVE SUMMARY	3
1.1 PROJECT OBJECTIVE.....	3
1.2 PROJECT COMPONENTS AND OUTPUTS	4
1.3 IMPLEMENTATION ARRANGEMENTS	5
2.0 PROJECT BACKGROUND & JUSTIFICATION.....	7
2.1 BASIN INFORMATION.....	7
2.1.1 <i>Demography and poverty</i>	7
2.1.2 <i>Economic Activities</i>	8
2.1.3 <i>Catchment characteristics</i>	10
2.2 WATER RESOURCES OF THE MARA BASIN	11
2.2.1 <i>Water Resources Issues</i>	11
2.2.2 <i>Development potential</i>	12
2.3 CURRENT INSTITUTIONAL SETTING	13
2.3.1 <i>Management Institutions in the Mara Basin</i>	13
2.3.2 <i>The Nile Basin Initiative</i>	14
2.3.3 <i>EAC and LVEMP</i>	16
2.4 THE MARA PROJECT WITHIN THE REGIONAL CONTEXT	17
2.5 PROJECT JUSTIFICATION.....	18
3.0 PROJECT DESCRIPTION	20
3.1 PROJECT OBJECTIVES.....	20
3.2 PROJECT COMPONENTS AND OUTPUTS	20
4.0 CROSS-CUTTING ISSUES	28
4.1 PROMOTION OF GENDER EQUALITY	28
4.2 HIV/AIDS PANDEMIC	28
4.3 POVERTY ALLEVIATION	29
4.4 INSTITUTION AND CAPACITY BUILDING.....	29
4.5 WATER DEMAND MANAGEMENT.....	32
4.6 ENVIRONMENTAL IMPACT ASSESSMENT	32
5.0 PROJECT IMPLEMENTATION ARRANGEMENTS	33

5.1	INTRODUCTION	33
5.2	PROJECT AGREEMENT AND ESTABLISHMENT	33
5.3	PROJECT MANAGEMENT AND IMPLEMENTATION	33
5.4	PROJECT COORDINATION, SUPERVISION & REPORTING	36
5.5	PROJECT MONITORING AND EVALUATION	37
5.6	PROCUREMENT AND DISPOSAL OF ASSETS	37
5.7	FINANCIAL MANAGEMENT ARRANGEMENTS	40
5.7.1	<i>Project accounts</i>	40
5.7.2	<i>Financial Reporting</i>	40
5.7.3	<i>Project audit</i>	40
5.7.4	<i>Financial disbursements</i>	40
5.8	STAKEHOLDER PARTICIPATION AND COORDINATION.....	41
5.9	GOVERNMENT CONTRIBUTIONS	42
5.10	SCALING UP INVESTMENT ACTIVITIES.....	43
6.0	PROJECT SUSTAINABILITY, RISKS & ASSUMPTIONS	45
6.1	PROJECT SUSTAINABILITY	45
6.1.1	<i>Institutions</i>	45
6.1.2	<i>Finances</i>	46
Annex I.	Mara Small Scale Investments Projects	
Annex II.	Mara Project LFA Matrix	
Annex III.	Mara Project Budget	
Annex IV.	Mara Project Implementation Schedule	
Annex V.	ToR for Principal Project Staff	
Annex VI.	Membership of Mara RPSC	
Annex VII.	Roles of key project actors	
Annex VIII.	Mara River Basin & Its stakeholders	
Annex IX	Mara Institutional Issues	
Annex X	Mara Technical & Environmental aspects	

ACRONYMS AND ABBREVIATIONS

CBO	Community Based Organisation
DSS	Decision Support Systems (GIS, databases, hydrological models)
EAC	East African Community
EIA	Environmental Impact Assessment
FAO	United Nations Food and Agriculture Organisation
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GIS	Geographic Information System
GoK	Government of Kenya
GoT	Government of Tanzania
HDI	Human Development Index
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IDA	International Development Agency
IWRM&D	Integrated Water Resources Management and Development
IT	Information Technology
LFA	Logical Framework Approach
LVBC	Lake Victoria Basin Commission (currently under preparation by EAC)
LVEMP	Lake Victoria Environment Management Project
NBD	Nile Basin Discourse
NBI	Nile Basin Initiative
NBI SVP	NBI Shared Vision Programme
NELCOM	Nile Council of Ministers
NEL-CU	NELSAP Coordination Unit
NILE-SEC	Nile Basin Initiative Secretariat
NELSAP	Nile Equatorial Lakes Subsidiary Action Programme
NELTAC	Nile Equatorial Lakes Technical Advisory Committee
NGO	Non Governmental Organisation
NLO	National Liaison Officer
NORAD	Norwegian Agency for Development Cooperation
PMU	Project Management Unit
RPSC	Regional Project Steering Committee
Sida	Swedish International Development Agency
ToR	Terms of Reference
UN	United Nations
UNDP	United Nations Development Programme

USD	United States Dollars
VAT	Value Added Tax
WRMA	Water Resources Management Authority (Kenya)
WUA	Water Users' Association
WWF	World Wide Fund for Nature

1.0 EXECUTIVE SUMMARY

The Mara River Basin is shared between Tanzania and Kenya. The majority of the Basin's population is engaged in small-scale mixed farming, although there are also a number of large farms producing cash crops. The Maasai maintain a pastoral life in the upper basin. The mid basin contains the world famous Serengeti and Masai Mara wildlife habitats that are important sources of tourism income for both countries. The river forms the Masurua Swamp prior to entering Lake Victoria at Musoma Bay. Fishing is an important activity in these lower river reaches.

The basin is experiencing environmental degradation, primarily because of increasing population pressure. This has led to deforestation, increased soil erosion, increased effluent discharges into the river, pollution from mining activities, and threats to fishing in the lower reaches of the river. These issues cross national borders and require a whole of basin approach to their management.

The environmental degradation of the basin is closely linked to its socio-economic development. Poverty leads to over-use of the basin's resources, while the degradation reduces the ability of the resource base to provide a sustainable livelihood. The way out of this trap is to promote environmentally sensitive development investments that are sustainable in the long term and which reduce the pressures on the basin's resources.

This project will develop a framework for trans-boundary development and management of the water resources of the basin, so that subsequent development oriented investments will be sustainable in the long-term. It will prepare a small number of such development investment proposals for subsequent funding within a consistent development strategy, and will enhance the abilities of managers and communities in the Basin to engage in trans-boundary development activities. To provide immediate assistance to the basin's communities, a number of small-scale investments will be funded during the project. These small-scale activities may be able to be subsequently scaled up across the basin.

1.1 PROJECT OBJECTIVE

This project is one of 10 projects within the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) of the Nile Basin initiative (NBI). This project document is based on a preparatory consultancy funded by Sida, done by SWECO & Associates international consultants and revised by NELSAP Coordination Unit in consultations with Nile Equatorial countries particularly with water resources managers in Kenya and Tanzania.

The overall Project Objective is to:

Establish a sustainable framework for the joint management of the water resources of Mara River Basin; in order to prepare for sustainable development oriented investments that will improve the living conditions of the people while protecting the environment.

The specific objectives of the project are:

- Establishment of a sustainable framework for joint management of the shared water resources of the Mara River Basin.
- Development of an investment strategy and conducting pre-feasibility studies.
- Building capacity at all levels for sustainable management and development of Mara River Basin
- Implementing small-scale investment projects to build early confidence in Mara River Basin community.

1.2 PROJECT COMPONENTS AND OUTPUTS

In order to meet the project objectives, the Project will be organized into four inter-related components, each producing tangible outputs. These components are described in more detail in Section 3.

Component 1. Establishment of a sustainable framework for joint management of the shared water resources of the Mara River Basin.

A mechanism for the transboundary development and management of the water resources of the Mara River Basin will be established at central government and Basin levels. The form of this mechanism will be determined during the project with input from government agencies and other stakeholders. The mechanism will be designed to build on the management institutions being developed in the Basin at national and regional levels as part of the two countries' water reforms. Where necessary, government policies and legislation will be augmented to take advantage of opportunities arising from transboundary management of the basin's water.

Output: A trans-boundary management framework including a management strategy established for the Mara River Basin.

Component 2. Development of an investment strategy and conducting pre-feasibility studies.

The project will gather all available information and data on Mara River Basin in both countries and develop a Mara River Basin Monograph that will contain information on the natural resources of the basin, land use activities, social and economic conditions, environment, and opportunities for growth. The Monograph will facilitate the preparation of different river basin development scenarios. These scenarios will be analysed and discussed at a stakeholder workshop. An agreed trans-boundary development strategy will be produced and a small number pre-feasibility studies will be conducted for some of the identified large-scale investment opportunities in the basin.

Outputs: A Mara River Basin Monograph and information management database.

Simple model for assessing development scenarios and selection of a preferred development strategy

Pre-feasibility studies for some of the identified investment opportunities in the basin.

Component 3. Building capacity at all levels for sustainable management and development of Mara River Basin

Water resource management staff in agencies in both countries will be trained in technical and administrative topics, with a particular emphasis on transboundary management. Community awareness programs will be implemented to explain the transboundary implications of water use activities. The project outputs will be promoted through a communications program so that all parties are aware of the evolving capacity in the Basin for trans-boundary investments. The existing hydro-meteorological network will be rehabilitated and upgraded across the basin. A water quality survey will be undertaken to provide a baseline for subsequent investment projects. The flow and water quality data will be shared between the countries.

This work will be developed and implemented with assistance from the NBI Shared Vision Program. Where possible the community awareness aspects will be conducted jointly with NGOs and CBOs active in the Basin.

- Outputs: Staff trained at national and basin levels and Basin offices strengthened.
- Increased community awareness about environmental management issues and development options.
- Basin wide sustainable hydro-meteorological network and a water quality baseline established.

Component 4. Implementing small-scale investment projects to build early confidence in Mara River Basin community.

A number of small-scale investment projects will be implemented immediately to provide early benefits to communities within the Basin. These investments will build confidence in the project within the Basin, provide practical experience and lessons in investment activities, be potentially scalable across the Basin, and have transboundary benefits where possible.

- Outputs: Identified small-scale projects implemented.

1.3 IMPLEMENTATION ARRANGEMENTS

The project will be implemented within a period of four years as part of the NELSAP portfolio. The Project Grant Agreement will be signed between the Development Partner and the NBI Executive Director on behalf of NILE-COM. Coordination will be maintained between this and other NELSAP projects through the NEL-CU office in Kigali, Rwanda.

The project will be managed by a small Project Management Unit (PMU) based in Musoma in Tanzania. Office space will be provided by the Tanzanian Department of Water Resources and Livestock as part of their contribution to the project. A Project Manager, supported by a Project Officer and Financial Officer, will manage the project.

The project will be supervised by a Regional Project Steering Committee (RPSC) constituted by representatives of the national government agencies of Tanzania and

Kenya. The RPSC will report to the Nile Equatorial Lakes Technical Advisory Committee (NEL-TAC).

In order to co-ordinate and facilitate the implementation of projects and activities at the national level, part-time National Liaison Officers (NLOs) will be appointed by the respective governments. They will devote 30% of their time to the project activities.

In the initial phase, the NEL-CU will be responsible for establishing and staffing the PMUs and facilitating the appointment of National Liaison Officers in liaison with RPSC members. The NEL-CU will receive funds from the co-operating partners and transfer operation funds to the respective PMUs.

NELCU together with PMU will ensure effective coordination of the project at three key levels: firstly in terms of coordination mechanisms and procedures for effective project implementation; secondly, in terms of broad intersectoral coordination; and thirdly in terms of long-term, transboundary coordination.

The procurement function of a number of proposed contracts under this project and sister projects of Kagera and Sio-Malaba-Malakisi will be handled at the NEL-CU level, using World Bank procurement guidelines. A qualified Procurement Officer stationed at NELCU, financially supported by the project, will be responsible for handling the procurement function together with the NELCU staff.

Procurement at the NEL-CU level will be handled by a Procurement Committee consisting of the NEL-CU Co-ordinator, the NEL-CU Programme Officer, NEL-CU Procurement Officer and in respect of the concerned project, one RPSC member and the Project Manager.

The project will have a local bank account in the Musoma town where the PMU office is located for handling all local payments. In addition there will be common bank account in Kigali managed by the NELCU that receives donor funds and from which payments to suppliers and international consultants shall be made.

The PMU shall report on progress of the project (technical and financial) on a quarterly basis to the Development partners through the NELCU. NELCU will be responsible for preparing a joint report on the three projects to SIDA and other key stakeholders.

The project will use a process approach. The PMU will guide such processes by facilitating the involvement and contributions of various stakeholders and also ensuring that previously compiled information and strategies developed are used as inputs in the subsequent steps of the processes. A high degree of flexibility, for continuous planning reviews and for a well conceived yet simple follow-up system shall be employed.

2.0 PROJECT BACKGROUND & JUSTIFICATION

2.1 BASIN INFORMATION

2.1.1 Demography and poverty

Both Kenya and Tanzania are IDA countries with annual average incomes below \$1000. Both are ranked in the bottom 25% of countries on the UN Human Development Index (Table 1) and have 23% and 20% of their populations living on less than \$1 a day respectively.

Table 1: UNDP Human Development Indicators 2003 for Kenya and Tanzania

	Kenya	Tanzania
HDI index	0,489	0,400
HDI rank, of 173 countries	146	160
GDP per capita, USD	980	520
Population living below 1 USD/day	23.0 %	19.9 %
Annual population growth	3.2 %	3.0 %
Adult literacy rate	83 %	76 %
Population without sustainable access to improved water source	43%	32 %
Population with access to improved sanitation	87 %	90%
Population with access to an improved water source	57 %	68%

Based on the 2002 census it is estimated that approximately 1.1 million people live within the Mara catchment, with the majority living in rural areas. About 775 000 of this population live in Kenya and 325 000 in Tanzania. With the current growth rate the population will have almost doubled in 20 years (1.98 million).

Table 2 provides socio-economic data for the Basin. Many of the Basin's population depend on subsistence level mixed farming. The poverty levels in the Basin are higher than the national average in the Kenyan part of the Basin. While equivalent poverty data are not available for the Tanzanian part of the basin it is likely that these populations also experience high poverty levels. Promoting investments in the Basin will not necessarily assist these poor – the investments will need to be deliberately designed to allow the poor access to the benefits.

Table 2. Population and poverty data for the Mara Basin.

District	Total District population (2002)	Estimated population within Basin			% pop. below poverty line	Pop. growth rate %	Pop. density Km ²
		Total	Urban	Rural			
Kenya							
Bomet	415,091	415,091	91,960	248,343	62	2.7	288
Narok	403,812	242,300	27,300	215,000	64	3.3	27
Trans Mara	182,070	109250	3600	106,000	57	2.3	64
		Total	Urban	Rural			
Tanzania							
Tarime	492,798	147,839	29,569	118,270	NA	2.8	118
Musoma	439,195	132,381	32,626	99,755	NA	2.8	340
Serengeti	176,609	44,152	2,208	41,944	NA	2.8	26
Total							

2.1.2 Economic Activities

2.1.2.1 Kenya

Within Kenya, the Mara catchment comprises the Districts of Bomet, Narok and Transmara where the settlement patterns are characterised by either subsistence-level, smallholder mixed farming or large-scale commercial farming. Barley, pyrethrum, maize, sunflower and wheat are grown on the large-scale farms. There is a combination of land use types in the Trans-Mara District, west of the Mara River, with livestock, sorghum, sunflower and maize being grown.

Population pressure is making farming shift to fragile soils that are prone to erosion and loss of soil fertility. This is a particularly acute problem in Bomet District. Some of these eroded soils reach the streams and rivers of the Basin. Farming is spreading into wildlife corridors, creating a consequent threat of increased damage to crops by wildlife, and escalating human-wildlife conflicts.

Livestock rearing is a major source of income for the Maasai, who occupy large land areas immediate north of the Maasai Mara Nature Reserve. Overstocking of livestock in these areas is also resulting in increasing human-wildlife conflicts.

In Narok District, a large and increasing squatter presence is resulting in destruction of the forest cover, causing soil erosion and a migration into urban areas. In the highland zones of the Upper Mau, deforestation followed by high settlement density is leading to erosion and declining water quality in the tributaries.

There are no industries operating within the catchment area in Kenya, although there are a number of tea estates.

Poverty reduction is dependent on economic growth that can considerably outpace population growth. An immediate priority of the Kenyan government as expressed in the Interim Poverty Reduction Strategy Paper 2000-2003 is therefore to restore and sustain rapid economic growth to generate wealth and economic expansion. The paper

recognizes that there are strong links between the lack of access to water supplies and poverty in rural areas.

In the water sector, the government is developing community based catchment management strategies to ensure adequate quality and quantity of water to the poor. For these strategies to be successful, water related investments need to become more efficient than they currently are. The current government policy is therefore to withdraw from direct involvement in the implementation and management of water schemes and instead hand them over to communities, local authorities and other service providers. This will be achieved by developing rehabilitation programmes with the stakeholders to enhance ownership. Clearly defined mechanisms need to be put in place to guide the process, together with well functioning legal and institutional frameworks.

2.1.2.2 Tanzania

On the Tanzanian side of the Basin, the Mara River traverses Tarime, Musoma Rural and Serengeti Districts. Different ethnic groups live in different parts of the basin. The pastoral Kurya are the main ethnic group in the Tarime highlands and in the midlands, accounting for roughly 50% of the population. The main ethnic group near Lake Victoria and in the lowland areas south of Musoma are the Jita, while the Luo live along the Kenyan border from the lake shore to the foot of the Tarime highlands.

The majority (80%) of the population living in the catchment on the Tanzania side is dependant on agriculture and livestock keeping for their livelihood. Apart from their economic value, livestock is associated with intrinsic cultural and social values, with cattle used as bride wealth. A small proportion of the population is involved in fishing, mainly at subsistence level.

The average per capita landholding is only 4-5 acres for both food and cash crops. A limiting factor for agriculture production is the heavy dependence on hand hoeing. Food crops grown include maize, sorghum, millets, cassava and groundnuts. Cash crops include cotton, coffee in Tarime, some paddy and beans. Sugarcane is produced along the banks of the Mara River.

The agriculture sector is increasingly unable to provide sufficient employment for the population, due to land shortages, forcing many farmers to attempt to diversify livelihood options. Off-farm employment is obtained from fishing, small-scale enterprises and through farmers hiring themselves to other farmers for weeding and post-harvest activities. Small-scale gold mining in Tarime District provides another opportunity. Unemployment levels are high at 31%, with women forming over 50% of those unemployed.

There is poor coverage of social service provisions such as water supply, health and education poorly in the Tanzanian part of the Basin. For example, less than half the total number of villages in the region has access to potable drinking water.

The main source of income for the majority of the population is subsistence farming, but inadequately staffed and resourced extension services are unable to provide farmers with much needed advice and information to enable them to improve productivity of the land. Mara communities rely on livestock production, predominantly

cattle, goats and sheep, to fulfil social as well as economic needs. Animals represent an asset, which can be purchased when there is good harvest and sold during difficult times to buy food. However, there has been a decrease in the number of households owning cattle, due to high stock mortality in recent years caused by East Coast Fever and other tick borne diseases. Other serious problems include cattle rustling and water shortages during the dry season and lack of proper land use plans incorporating livestock keepers.

2.1.3 Catchment characteristics

The Mara River is an international river, shared between Kenya and Tanzania (Figure 1). It flows into Lake Victoria and thus forms part of the Nile Basin. The River is about 400 kms in length and it drains an area of about 13 325 km². The River Mara¹ contributes 5% of the total amount of water that flows into Lake Victoria. However, from a conservation point of view it is probably the most important river entering Lake Victoria, running through both the Masai Mara Game Reserve and the Serengeti National Park. Without an adequate quantity of good quality water, these internationally renowned conservation areas would be threatened.

The River's uppermost tributaries rise in the forested Mau Escarpment of Kenya. The source is a swamp at an elevation of 2 900 m amsl. The river discharges into the Musoma Bay in Lake Victoria at an elevation of 1 134 m amsl. Rainfall in the catchment is positively correlated to elevation, the highest being in the Mau Escarpment (1,400-1,800 mm), and the lowest being around Musoma (700-800 mm).

A network of rivers and springs contribute to the Mara River. There are five main tributaries: In the upper catchment, the Talek River starts from the Loita Plains and joins the Mara inside the Masai Mara Game Reserve. The two main perennial tributaries, originating in the Mau Escarpment and flowing southwest, are the Nyangores and the Amala. The Engare Engito River originates from a cluster of ridges while the Sand River joins the Mara River at the Kenya-Tanzania border. At this point, the Mara turns west and crosses the northern sector of Serengeti National Park. This portion is a dry plain (500-700mm/year) with high evapotranspiration. The catchment then narrows and the river meanders through an extensive wetland, the Masurua Swamp. Beyond the swamp, the Mara River enters Lake Victoria at Musoma Bay. Here the river is almost 200 meters wide.

The course of the Mara River can be divided into four very distinct land use sections. The forested Mau Escarpment in the very upper part of the catchment is a well-defined section that has been settled in recent years following extensive forest excisions and deforestation. The Mau Escarpment, immediately down-stream, is the second section. This section is hilly at first, where agriculture is expanding quickly and where large-scale farming is taking place. It can be seen as a transition zone between the forested Mau Escarpment and the flat grasslands of the third section. This third section is an open savannah grassland comprising the Masai Mara Game Reserve on the Kenyan side and the Serengeti National Park on the Tanzanian side. Biodiversity conservation and tourism are the sole land uses on the savannah

¹ LVEMP Integrated Water Quality/Limnology Study for Lake Victoria; Final Technical Report March 2002.

grasslands and woodlands of this famous ecosystem. The forth section is found in Tanzania, a great plain characterized by high population and livestock numbers. Gold mining is taking place close to the river. Twenty per cent of Tanzania's livestock is here; 2.1 million head of cattle, sheep and goats in the lower Mara Basin. Fishing is an important part of the

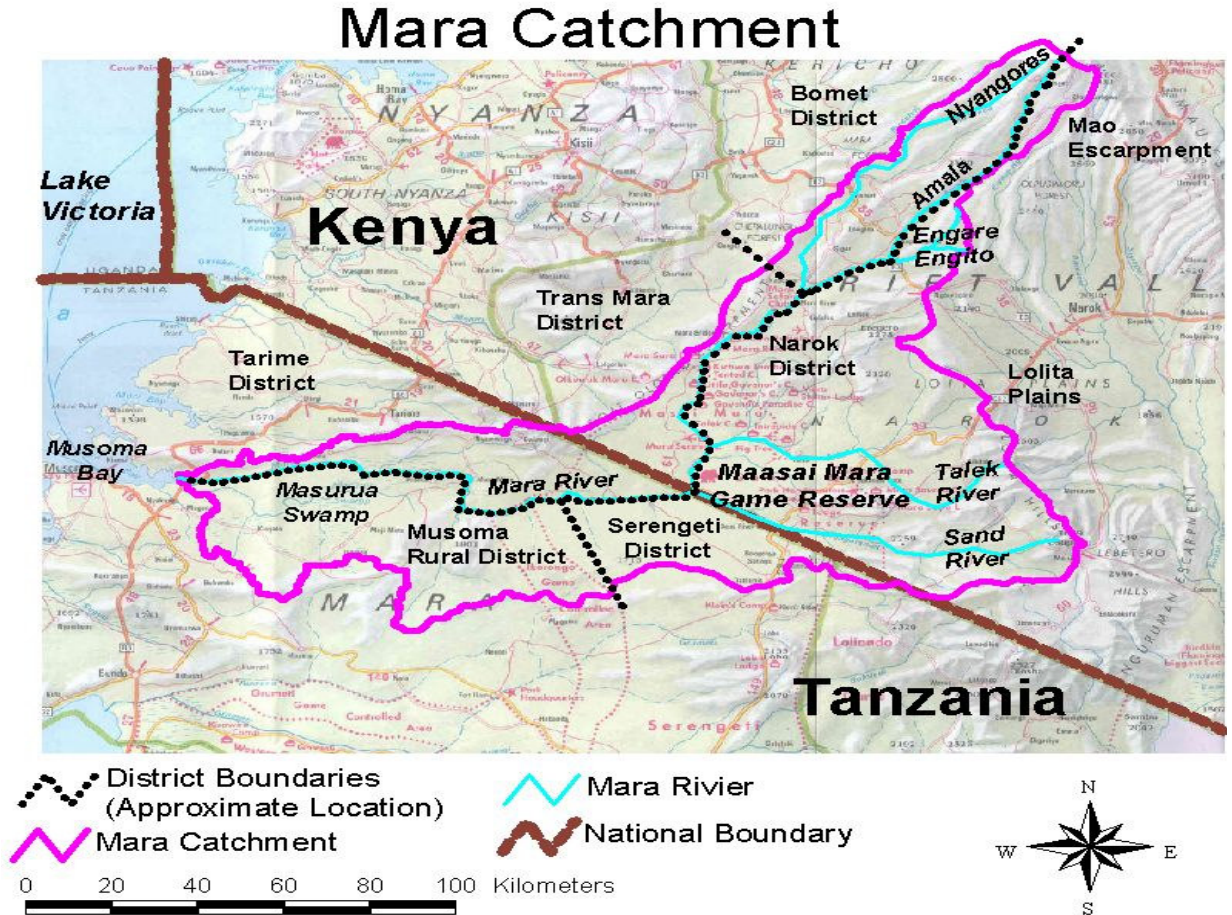


Figure 1 The Mara catchment

2.2 WATER RESOURCES OF THE MARA BASIN

2.2.1 Water Resources Issues

Largely because of the increasing population, the Mara River is experiencing a growing number of water resource issues.

Tree loss from the recent forest excisions in the upper catchment in Nakuru and Narok Districts, agricultural developments in the upper and middle parts of the catchment, and logging in the forests controlled by the County Council, have led to extensive soil erosion. Consequently, the waters of the Mara River are turbid and laden with silt from the upper catchment all the way to the mouth. Sediment deposition is common along the meandering sections of the Mara River in the mid catchment. In addition,

the extensive use of fuel wood by the camps and lodges of the middle Mara region has contributed to land degradation. Although there is limited land degradation within the immediate vicinity of these lodges, deforestation is evident in areas where contractors collect firewood.

Pollutants in the river come from agrochemicals, especially commercial fertilizers that release nitrogen and phosphorus, but also from livestock manure. Large-scale farmers commonly apply pesticides and fertilizers to boost crop yields. These chemicals are often applied in excess quantities and consequently are washed into rivers, water pans and small earth dams as well as swamps during rains. Numerous cattle dips north of the Maasai Mara are also sources of chemical contamination.

Effluents from domestic and commercial premises in towns along the river are either discharged directly into the river or washed into it by rains. This is a particular problem in the Bomet district which is experiencing considerable population pressure. In and around the Maasai Mara Game Reserve, there are 61 tourism accommodation sites, most of which discharge raw or partially treated sewage directly into the Mara River and its tributaries. Clinics around the Reserve report high rates of typhoid.

There is little industrialization except a few vehicle garages in the smaller towns. Oily storm runoffs from some of these towns discharge into the river. Effluent from gold mining washes into the lower Mara upstream of the Masurua Swamp.

Quantitative data upon which to assess water quality problems are scarce. A system to regularly collect water samples, and to undertake laboratory analysis for pollution is simply not in place. Thus, it is difficult to assign causes and effects. Nevertheless, there is indirect evidence of environmental damage; for example, heavy fish mortality was observed in the Mara River close to the border between Kenya and Tanzania in 1995, 1997 and 2000. Hippos and crocodiles appeared to be unaffected. These unique wildlife habitats are important sources of tourist income for both countries. The source were not identified but possible causes include chemical pollution from agrochemicals applied on cultivation north of the Mara-Serengeti ecosystem, cattle dips, aerial spraying of wheat fields and toxic waste discharged by the tourist facilities.

The river is unregulated and flows freely. Some authorities believe that there has been a decline in river flows. However, the flow gauging on the river is very limited with two stations currently operating on the Kenyan side and one on the Tanzanian side (historical data are available for a second Tanzanian station which ceased operating in 1985). Some one-off data have been collected for special purposes but these data are dispersed between different organizations and not always available in electronic form. Thus, it is difficult to obtain quantitative evidence of a decline in flows.

2.2.2 Development potential

At present, development in the basin is restricted to the tourism facilities in the Serengeti National Park and the Masai Mara Game Reserve and in a small number of large-scale farms in the mid and upper catchment. Although there are no major dams or diversion structures on the Mara River at present, there is considerable development potential in the water resources of the Mara River Basin for large-scale

irrigated agriculture production, sustained wildlife resources for tourism, livestock production, and hydropower development. Some development initiatives have been proposed over the years but none has come to fruition.

In 1976, the Government of Tanzania proposed the development of Mara river water resources for hydropower, flood control and irrigation. This proposal was catalysed by reclamation of the Ikongo valley for sugar cane plantations and smallholder farmers where flooding was a major issue. A preliminary study concluded that at least 10,000 ha of irrigated sugar cane production could be developed. However, this proposal did not proceed, due to lack of a bilateral agreement between Kenya and Tanzania on shared water usage.

In 1992-3, KenGen, the State owned power development company in Kenya, carried out a feasibility study to divert water from the Amala River, in the headwaters of the Mara basin, to the Ewaso Ngiro South River. The added water would enable the development of three dams and hydropower plants in the Ewaso Ngiro River, with a total capacity of 180-240 MW. An Environmental Impact Assessment of this transbasin proposal concluded that the extra water would impact negatively on the Lake Natron environment and the mitigation measures required to deal with the extra water would make the project uneconomic. There were also concerns about the impact of the reduced Mara River flows on the Maasai Mara and Serengeti National Parks and the Masurua Swamp. However, the hydrological data were so weak that this impact could not be properly assessed. To date, this proposal has not proceeded.

There has also been a proposal for a dam with a storage capacity of 300 million m³ on the Nyangores River, for the purpose of irrigation (12,000 ha) and hydropower generation. However, this proposal has not been developed in detail and no environmental impact or other studies have been carried out.

It is apparent that the Mara Basin's development will remain impeded and the poverty of its communities will continue, unless a robust trans-boundary framework for development is put in place that promotes sharing of the basin's water resources while protecting the Basin's environment (including the important wildlife areas in the mid-Basin).

2.3 CURRENT INSTITUTIONAL SETTING

2.3.1 Management Institutions in the Mara Basin

Water management in both Tanzania and Kenya has been highly centralized since colonial times from a central government ministry concerned with both water resources policy and management. The Ministry controls water resources through Regional and District water offices. The resources available for management and improvement of the water resource at the local level have always been limited, and the capacity of the sector has also been limited. Details of institutional arrangements in the basin are presented in annex IX

However, each country has managed the waters within their national borders with little attention to the policies or activities of neighbouring countries. In spite of the need for a mechanism to discuss water sharing, as illustrated by the KenGen proposal,

no mechanism for transboundary management of water flows or water quality has been initiated in the Mara Basin.

In recent years, both Kenya and Tanzania have introduced new National Water Policies. These policies propose that water resources management be decentralized to river basin level, that water users play an active role in decisions about water resources management, and that water be treated as an economic good. Permits are required to discharge pollution into rivers and the enforcement of water abstractions and pollution levies will be funded, at least partially, through fees for water abstraction. Both countries policies recognize the importance of monitoring to provide a quantitative basis for management.

The policies differ in their attitudes to transboundary water management. The Tanzania policy sees transboundary water resources management as an important facet of its reforms. One of the objectives of the policy is “to promote regional and international cooperation in the planning, management and utilization of water by respecting the principle of international obligations on trans-boundary water resources”.

On the other hand, the Kenyan policy makes little reference to transboundary water resource, apart from acknowledging that “Kenya has a lot of shared water resources with her neighbours. In the absence of national laws governing the utilization of these waters, it is necessary to examine the requirements of international treaties on water resources particularly in relation to shared water resources and adopt those that are appropriate to our country’s conditions and needs”. While the Kenyan policy makes mention of the need to account for upstream and downstream impacts of developments and manage water quality, it does not explicitly recognize that some of these impacts may be transboundary. However, it does recognize that water resources monitoring and assessment is essential for proper decision making, including at the international level.

In Kenya, a new Water Act was passed in late 2002 and a Ministry of Water Resources Management and Development was established in early 2003. However, the formation of the semi-autonomous Water Resources Management Authority has been delayed and, at present, none of its regional offices have been established. The Tanzanian reforms are more advanced with three regional water management offices now established. The Lake Victoria Basin Office, with HQ at Mwanza, includes the Mara catchment within its area of responsibility. This office is the only one of the three that is not supported by donor funds and so is dependent on collection of water user fees for operational expenses and on central government allocation for salary costs and major expenses.

2.3.2 The Nile Basin Initiative

The Nile Basin Initiative (NBI), established formally in 1999, provides for an agreed basin-wide framework to fight poverty and promote socio-economic development in the ten Nile countries (Burundi, Rwanda, Uganda, Tanzania, Kenya, Sudan, Eritrea, the Democratic Republic of Congo (DRC), Ethiopia and Egypt). The NBI contains a Shared Vision Program (SVP) and two sub-basin Subsidiary Action Programs (SAPs) of investments that will promote poverty alleviation, growth and improved environmental management.

The Shared Vision Program (SVP) is a broad based program within the NBI to exchange experience, create an enabling environment for investment, enhance capacity, and build trust. The SVP project portfolio includes seven thematic projects and an eighth coordination project. The Water Resources project within the SVP has four components:

1. Water Policy Good Practice Guides and Support
2. Project Planning and Management Good Practice Guides and Support
3. Nile Basin Decision Support System (DSS)
4. Regional Coordination and Facilitation

The first two of these components are intended “to enhance the capacity of Nile Basin countries to plan and manage multicountry projects. These skills will become particularly important as NBI cooperation grows and cooperative investment projects are developed through the subsidiary action programs”. The third component will establish a DSS that includes models for assessing development options at river basin level. However, developing this DSS is recognized to be a long-term task and the initial effort will be focussed on building capacity and developing core tools. The SVP is expected to commence in mid-2004.

The FAO funded Nile Basin Water Resources Project (NBWRP) is implemented as part of the SVP. The early phases supported the establishment of key technical facilities in the 10 Nile countries including improved internet communications, GIS, Satellite and remote sensing capabilities, and knowledge on technical, socio-economic, environmental, legal and institutional aspects of shared river basins. The project has now entered into a second phase supporting the implementation of a limited hydro-meteorological monitoring network, establishment of geo-referenced databases, development of a prototype water resources management decision support tool, and training in legal and institutional aspects of water resources management. One of the hydro-meteorological stations is being installed in the Tanzanian part of the Mara catchment.

The NBI Subsidiary Action Programs (SAPs) are sub-basin investment programs in the Eastern Nile (ENSAP) and the Nile Equatorial Lakes (NELSAP) regions within the overall NBI. NELSAP includes the six countries of the Equatorial lakes (Burundi, Democratic Republic of Congo, Kenya, Rwanda, Tanzania, and Uganda) and Egypt and Sudan because the latter two are potentially affected by action in the Equatorial Lakes. In addition, actions in Egypt and Sudan affect the Equatorial Lakes countries by potential “foreclosure of future use” (the acquisition of rights by pre-emptive use of water). It was agreed at the NEL Council of Ministers of Water Affairs (NEL-COM) meeting in 1999 that the goal of NELSAP is to contribute to realizing the overall Shared vision/goal of the Nile Basin Initiative (NBI): *“To achieve sustainable socio-economic development through equitable utilization of, and benefit from, the common Nile Basin water resources.. A specific NELSAP objective was subsequently adopted: “To contribute to the eradication of poverty, to promote economic growth, and to reverse environmental degradation”.*

A portfolio of 12 NELSAP projects have been identified for preparation. Three of these projects concern River Basins, which are shared by two or more riparians,

targeting economic growth opportunities from cooperative management of serious environmental problems. The projects will support the development of new and effective mechanisms of joint water resources management and planning necessary for management decision making, the compilation of socio-economic and natural sciences background data in the River Basins and the development of economic growth scenarios. The projects will also implement and number of pilot projects which will build confidence and may be able to be scaled up in a subsequent investment phase. These activities will lay a common ground for future national and international investments in water resources development.

This project - Development of a Framework for Cooperative Management of the Water Resources of the Mara River Basin - is one of these River Basin Management projects.

Sida and NORAD as part of their contribution to the NELSAP have agreed to fund this project. Part of the task of this project is to ensure that additional donor funds become available so that this project's activities will be expanded later. There are opportunities for such expansion through funding additional small-scale investment, increasing capacity building activities, and preparing more long-term investment proposals for funding. The capacity of the PMU may also need to be expanded if additional activities are funded.

2.3.3 EAC and LVEMP

The East African Community (EAC) was established with the EAC Treaty between Tanzania, Kenya and Uganda. The treaty entered into force on July 7, 2000. The EAC aims at "widening and deepening co-operation among the Partner States in, among other areas, political, economic, social, cultural, health, education, science and technology, defence, security, legal and judicial affairs for their mutual benefit". The EAC has a central role in promoting improved development and management of the natural resources in the Lake Victoria riparian states.

The EAC, together with major donor partners, have signed an agreement on sustainable development of the Lake Victoria Basin. Included in this agreement are the need to take a multi-sectoral, regional approach to the Basin's management, the need for a long-term commitment, the need for a common understanding and vision that transcends sectoral and national approaches, and the need for subsidiarity in management. The EAC, under its Lake Victoria Development Program, has developed a vision for managing the lake basin as a common resource as called for in the partnership agreement. It is anticipated that the EAC will approve a Protocol for Sustainable Development of the Lake Victoria Basin in mid 2004 and establish a Lake Victoria Basin Commission as part of that Protocol. The Mara Basin would lie within the operational area of the Commission.

The Lake Victoria Environmental Management Project (LVEMP) was initiated in 1994 with the signing of a Tri-partite Agreement between Kenya, Tanzania and Uganda. The project is jointly funded by GEF and IDA with support from bilateral donors.

Phase 1 started in mid-1997 for a five-year period up to mid-2002. The project was subsequently extended to mid-2004 (Tanzania and Uganda) and end-2004 (Kenya) and planning is well advanced for a second phase of the Project.

In its first phase, LVEMP I, has been primarily a research program dealing with a very wide range of topics: fisheries management, aquatic weeds and water quality, catchment management, afforestation and wetlands management. LVEMP I focussed on data acquisition within the lake and its catchment, understanding the physio-chemical and ecological processes within the lake, trialing catchment management activities, and promoting greater awareness of lake management issues. In its second phase, LVEMP II, it will focus on putting this understanding into practice through the encouragement of greater private sector involvement in investments in the lake basin and through stronger land use planning controls.

2.4 THE MARA PROJECT WITHIN THE REGIONAL CONTEXT

The Mara project is designed to take advantage of these national and regional initiatives. The formation of a transboundary water resources management framework within the project will be consistent with the new Tanzanian and Kenyan Water Policies. The fact that new basin-level management structures are being introduced in both countries means that there is now a good opportunity to introduce this framework. The proposed Lake Victoria Basin Commission will provide a regional context for the project, beyond the immediate interests of Tanzania and Kenya. As the representative of the receiving waters, the Commission will be invited to participate in the design of the cooperative management framework being developed within this project.

The NEL region is perceived as “high-risk” by investors due to, *inter alia*, governance issues and security issues related to post-conflict and ongoing civil strife. At the same time, there are emerging democracies in all of the countries and a strong and growing civil society. Regional cooperative frameworks such as the East African Community and the NBI are building trust among the countries and their citizens. Barriers for investment financing can be mitigated by integrating financing options upstream in the project preparation phase and by working closely with the RPSCs.

The formation of the NBI is indicative of the growing support for a trans-boundary approach to water resources management in the region. The NEL-COM sees the NELSAP investment in river basin management be seen as a first step towards scaling up investment in these areas. Consequently, the river basin management projects will mobilize funding for appraisal studies of investment opportunities that are consistent with the development scenarios for each basin. The response will be at the international level (IFIs) as well as the regional level, through inward investments, which might be supported by the private sector. The RPSCs will carry forward the development dialogue at the basin level within the NBI and NELSAP. It is at the level of the river basin that real action on the ground will occur.

The NBI provides specific support to such initiatives through its SVP and this project will utilize the resources of the SVP where possible. However, some SVP projects, such as the Water Resources Project, may not be sufficiently developed to provide

assistance when needed by this project. On the other hand, the NBWRP project within the SVP is well established and will be installing a hydro-meteorological station near the Mara Mines site within the Basin. Linkages will be developed with the NBWRP for advice on monitoring design, training in monitoring techniques, database management and information sharing.

2.5 PROJECT JUSTIFICATION

The Mara River Basin is facing serious problems, primarily from soil erosion and deteriorating water quality. Pollution from agricultural chemicals, human and animal effluent and sediment and attached pollutants are all widespread problems in the river. There is anecdotal evidence that water flows have diminished in recent years but the state of river gauging is such that this cannot be verified.

Kenya and Tanzania are IDA countries with average annual incomes below \$1000 per capita per year. Specific development indicators are not available for the Mara Basin but poverty levels are higher than the national averages with most of the population following a subsistence agricultural life style. The observed degradation of the basin's water resources and the poverty level of the inhabitants are intimately linked. Sustainable improvements in the incomes of the Basin's population need to arise from investments in development activities that improve the management of the Basin's natural resources.

Left uncorrected, the continuing degradation of the basin threatens the livelihoods of the people as well as the viability of the rich biodiversity of flora and fauna in the Mara River Basin, including the world famous Serengeti-Masai Mara ecosystem and the Masurua Swamp. On the other hand, with properly designed and implemented investments, the natural resources of the Basin provide an opportunity for the communities to reduce their poverty. However, previous attempts at large-scale investment have foundered for a number of reasons including the potential environmental impacts and the absence of a mechanism for transboundary water resources management.

This project is designed to develop this transboundary water resources planning and management framework to allow large-scale investment projects to proceed, and to develop capacity at all levels of the management of the Basin to engage in such transboundary management. It will also develop detailed proposals for a small number of such large-scale investment projects so that they are ready to be presented to development partners and the private sector for funding.

The project will take advantage of and integrate with other national and regional activities. It will work closely with national water resources management agencies to ensure that the framework becomes part of the water resources reforms in each country and with other donor funded projects to ensure that overall benefits are maximized. In Kenya, this includes not only the Water Act of 2002 but also the Environmental Management and Co-ordination Act of 1999. In Tanzania, the project will further the implementation of the National Water Policy of 2002 and to the Environmental Policy of 1997.

The thrust of reforms in both Kenya and Tanzania is to promote decentralization by passing functions, responsibilities and resources from the central government level to

regional and community level. This Project will support all these reforms by strengthening basin level water resources management, building capacity at all levels, and supporting the establishment of water users' associations.

3.0 PROJECT DESCRIPTION

3.1 PROJECT OBJECTIVES

The Project's Objective is to establish a sustainable framework for the joint management of the water resources of Mara River Basin; in order to prepare for sustainable development oriented investments that will improve the living conditions of the people while protecting the environment.

The specific objectives of the project are:

- Establishment of a sustainable framework for joint management of the shared water resources of the Mara River Basin.
- Development of an investment strategy and conducting of pre-feasibility studies.
- Building capacity at all levels for sustainable management and development of Mara River Basin
- Implementing small-scale investment projects to build early confidence in Mara River Basin community.

3.2 PROJECT COMPONENTS AND OUTPUTS

The project will be organized into four components namely:

Component 1. Establishment of a sustainable framework for joint management of the shared water resources of the Mara River Basin.

Establishing a transboundary water resources management mechanism is fundamental to development of the Mara catchment for the benefit of its people. As experience has already shown, development of the upper basin will affect production activities and environmental values in the lower basin, to the point where such developments cannot proceed without an agreement between the two countries.

The form of this joint management framework cannot be specified in advance. It will need to be developed during the project through negotiations between Kenya and Tanzania. Nevertheless, the framework could include mechanisms for:

- Coordinating Basin management activities
- Establishing principles for trans-boundary water sharing
- Assessing and agreeing on development proposals
- Establishing joint EIA procedures for assessing proposals
- Establishing common water quality standards
- Handling disputes about water use and water quality
- Collaborative monitoring and data sharing

The framework will need to be negotiated at national level and implemented at both national and basin level. National level discussions may need to involve a number of

Ministries apart from the water resource Ministries, especially the Ministries handling foreign affairs. Depending on the form of the framework that emerges from these discussions, it is possible that policies and even laws may need to be amended in each country. While development of the water resources of the Mara River is unlikely to have a major effect on Lake Victoria and the Nile River, it is important that the Lake Victoria Basin Commission (assuming that it is established on schedule) is involved in these discussions so that full transparency is achieved.

The role of the project is to facilitate such negotiations. The two other river basin projects that form part of the NELSAP portfolio – Kagera and Sio-Malakisi-Malaba – will also be development transboundary water resource management frameworks. It would be most efficient to conduct the national scale discussions jointly with these project teams insofar as their negotiations involve Kenya and Tanzania. Basin scale discussions would remain specific to the organizations within each basin. Because of the downstream sensitivity associated with the development of the Mara's water resources, any such framework will require input from the organizations involved in these downstream areas (EAC and NBI).

The design of the framework will take into account the evolving management institutions in the two countries, especially the devolution of responsibility to basin level, and the closer involvement of stakeholders in decisions about water resources allocation and management. Thus, the objectives of the basin level management institutions could be established to include transboundary management. The Lake Victoria Basin Water Office has already been established in Mwanza, Tanzania. Because the Kenyan regional institutions (regional office of WRMA and CAAC) are still to be established, the discussions over the transboundary cooperative framework may take some time to complete.

One of the activities of the new regional offices of the water resources management authorities in each country is to draw up management strategies for their regions. The project will assist the regional offices make these strategies consistent across the national borders so that a trans-boundary management strategy is agreed for the Mara Basin.

It is important that all stakeholders in the basin have an opportunity to participate in the design and implementation of the framework. Consequently, Component 3 of the project will disseminate information about the development of the framework as well as develop a community-level understanding of the importance of the framework. A workshop will be held, once a draft framework has been developed, for input from a wide range of stakeholders.

The framework design will be informed by the information about the Mara Basin being collated in Component 2 especially the sections on the current policy, legal, institutional settings in the Basin. The capacity building activities of the project (Component 3) will assist the staff of the regional (and district) offices in understanding and carrying out joint management of the Basin.

Component 2. Development of an investment strategy and conducting of pre-feasibility studies.

This component will develop practical investment strategy that will basis for guiding sustainable development in the basin using the framework agreed in Component 1.

Production of the Mara River Basin Monograph. As part of the preparation of these proposals, and also to support the development of the transboundary management framework, a Mara River Basin Monograph will be developed. It will consolidate all existing information on water related sectors of the Basin and will be specifically focussed on laying a factual basis for development opportunities in the Basin. The Monograph will contain chapters describing the:

- Socio-economy
- Surface Water Resources
- Groundwater Resources
- Dams and other Hydraulic Works
- Water Quality and Sediment transport
- Pollution and impacts on the environment
- Water Supply and Sanitation
- Agriculture and Irrigation
- Forestry
- Industries and Mining
- Fisheries
- Conservation Areas, Wildlife and Tourism
- Environmental Flow Requirements
- Energy and Infrastructure

A small number of international consultants will work with national and regional experts under the leadership of a lead international consultant in producing the Monograph. Although the Monograph is primarily a compilation of existing information, the data on which it is based may need be supplemented by fieldwork, particularly in the socio-economic aspects. It is envisaged that the Monograph will be completed within 6 months of its commencement, so that it can be used to inform the subsequent stages of this component.

Assessment of Development Scenarios. On the basis of the Monograph and input from a wide range of stakeholders, river basin water Development Scenarios will be developed and analysed. These scenarios will describe alternative development possibilities. Their social, economic and environmental consequences will be analysed using a simple model of river flow and water quality, especially their transboundary and poverty alleviation aspects, developed by this component. The modelling will necessarily be simple given the very limited data available for calibration and validation. The modelling will be led by an international water resources modelling specialist and include technical staff of relevant Tanzanian and Kenyan government agencies. This work will be supported by the NBI Shared Vision

Program. National/regional experts will assess the social and economic implications of the modelling.

Given the data limitations, the model outputs will necessarily be only indicative. Nevertheless, the collaborative development and application of the model will contribute towards confidence building

between the two countries.

The results of the assessment of the development scenarios will be presented to a stakeholder workshop where input from a wide range of interested parties will be sought. The selection of the preferred development strategy will necessarily require a decision from the relevant government agencies in each country. The RPSC will play a central role in obtaining this decision expeditiously.

It is important that this phase does not take too long, so that sufficient time is available to develop the investment proposals and present them for funding.

Conducting pre-feasibility studies. Pre-feasibility studies of at least three of the identified long-term investment projects will be carried out in accordance and within the developed investment strategy. Detailed feasibility studies of such projects and any other identified would be funded from the Trust funds within the NBI and NELSAP framework in particular, once established.

Although the selection of the specific long-term development proposals will not be undertaken until after the development strategy has been agreed, some possible investments have been identified as part of this project's pre-feasibility study activities. They include:

- Development of water resource related aspects of enhanced wildlife tourism facilities in the mid-Mara catchment, including trans-border circuit. This development would need to be consistent with wildlife protection and environmental objectives.
- Development of large-scale irrigation that has good water use efficiency and produces minimal pollution.
- Development of small-scale agricultural activities in the upper Mara catchment that generate improved incomes while reducing erosion and sediment loss to rivers.
- Reconsideration of hydropower proposals in both Kenya and Tanzania.

The PMU will develop long-term investment ideas/projects up to a point where a proper feasibility study might be carried out with additional funding. The RPSC will be responsible for selecting the development proposals and for ensuring that there is adequate input from all interested parties. The RPSC will decide which feasibility study to be support based on a detailed screening against approved criteria. The NEL-CU will then manage the feasibility studies of identified investment areas. Within the project budget, provisions have been made to conduct pre-feasibility studies for at

least 3 long-term investment areas with a view to exploring the rationale, basic concepts and order of magnitude of costs.

Further funding will be sought by the NEL-COM from donors to support the preparation of project documents for identified long-term investment projects. A Trust Fund will be established by the NEL-COM and managed by the NEL-CU to support feasibility studies and other preparation work for these projects. NEL-COM and NEL-TAC will issue guidelines and criteria for the use of the Trust Fund. Additional funding of about US\$5 million is envisaged for these feasibility and project preparation work over the next 4-5 years of implementation of this project.

Component 3. Building capacity at all levels for sustainable management and development of Mara River Basin

The project will improve both the technical and administrative capacity of managers and in the Basin and the understanding of community groups about integrated water resources management. The project will undertake an early activity to design a more comprehensive Capacity Building Strategy that will ensure that all the relevant and necessary dimensions of capacity building are addressed during the project. Where possible, this capacity building activities will emphasize the importance of a transboundary approach to water resources management.

Regional manager capacity development. This subcomponent will focus on developing the capacities of regional managers in both the Kenyan WRMA offices and the Tanzanian LVBO offices to engage in cooperative management of the Basin's water resources. Activities could include:

- Information sharing about regional organization objectives and operational procedures
- Costs and benefits of transboundary cooperation
- Study tours of the full basin to enhance familiarity with issues and opportunities
- Short-term exchange of staff

This training shall be coordinated with the capacity building activities of the SVP program, to take advantage of the professional expertise and additional resources available.

Community Awareness Raising. There is a low appreciation of the downstream consequences of land use activities, particularly amongst residents of the upper Basin. This sub-component will raise the awareness of residents of the inter-connectedness of the Basin's water resources, as well as the benefits of the new approach to water resources management being conducted by the two governments.

Consultative mechanisms being set up as part of the water reforms in each country - Catchment and Sub-catchment Water Consultation Committees in Tanzania and

Catchment Area Advisory Committees in Kenya - will be consulted in the implementation of the community awareness program.

During the initial stages of the project, the community awareness program will focus on informing stakeholders about the Project activities and procedures, and the communication channels that will be put in place for stakeholder participation. Later, the sub-component will focus on providing information about managing land use activities in a way that minimizes detrimental effects to those downstream.

Different channels of communication will be employed to reach different stakeholder groups. These will include newsletters in both English and Swahili for those able to read; village-level meetings; and radio presentations. Where possible, the campaign will use local NGOs and CBOs to conduct communication activities at village level.

River Basin Monitoring Network. The small number of existing flow gauging stations in the Basin (together with the station being re-established as part of the SVP program) will be augmented with approximately seven more stations (depending on site costs) at locations to be selected jointly by technical staff from the relevant water resource agencies of the two governments. This sub-component will be undertaken in coordination with the SVP administered FAO NBWRP and will draw on the analysis conducted by the NBWRP into:

- Location of monitoring sites
- Low maintenance and robust equipment
- Methods of data acquisition (including cellular telephony)
- Methods of data storage and analysis

As already noted, lack of water quality data has hampered pollution management in the Basin. Water quality monitoring is more costly and labour intensive than flow monitoring. It is outside the scope of this project to develop an on-going water quality-monitoring program. Nevertheless, a basic water quality survey will be conducted to act as a baseline for subsequent development investments. This water quality information would include concentrations and estimated loads of:

- Turbidity
- Nutrients
- Bacteria and other pathogens
- Salinity
- Pesticides and agricultural chemicals.

The survey shall be conducted at representative points across the basin and during different seasons to gain a comprehensive understanding.

The survey shall be designed and carried out jointly by water resources staff from Tanzania and Kenya to promote a whole-of-basin understanding of pollution. Regional/international consultants will be made available by the project to assist the national staff. Operational costs will be provided by the project.

The data from the flow monitoring and the water quality survey shall be shared between the two countries as part of confidence building. This may require upgrading of databases so that they are compatible. The water quality data shall be analysed to quantify the extent and seasonality of pollution and, if possible, the likely causes of the pollution. This analysis shall be published for widespread use as a supplement to the Mara River Monograph.

The simple flow model developed in Component 2 will be maintained in the regional offices of respective water resource authorities to assist with subsequent decision-making in the Basin. The model shall be recalibrated as more data becomes available from the network.

Communications. The success of the project, including the preparation and funding of long-term investment projects, will depend significantly on cooperative action by national governments, regional managers, communities as well as development partners and the private sector. The outputs from the other components such as:

- the formation of a joint development framework that provides confidence for investment,
- the agreement on a development strategy,
- the selection of investment projects and their preparation activities,
- the small scale investments and lessons learnt

will be promoted through a communications strategy that will reach within and outside the Basin. This will ensure that the evolving attractiveness of the Basin for investment is understood and acted on by NILECOM and its constituent committees as well as by development partners and private sector investors.

Component 4. Implementing small-scale investment projects to build early confidence in Mara River Basin community.

A proportion of the project budget has been set aside for small-scale investment projects that can build early confidence amongst local stakeholders that the project will provide tangible benefits. Mara river basin and its stakeholder are presented in annex VIII.

Eighteen proposals were identified during field visits by the preparation consultants to the six districts within the Basin. Following an assessment against the following criteria:

- Have transboundary dimension
- Demonstrate benefits at a regional level
- Result in tangible poverty reduction benefits on the ground
- Be able to upscale for the future
- Demonstrate sustainable use of water resources as a tool
- Avoidance of duplication
- Have smart implementation arrangements and ownership

and discussions with the RPSC members from Tanzania and Kenya, this list was reduced to three proposals.

Small-Holder Irrigation Development Project (\$200,000)

This project will be carried out in Bisarwe Village, Tarime District, Tanzania. It will be composed of three components: water harvesting, crop production and capacity building. The water harvesting will consist of a storage structure of dimensions 500m by 4m high. The crop production component will involve production of paddy rice and horticultural crops to ensure household food security is achieved. Residual moisture will be utilised for the production of chick peas and tree seedlings. A total of 100 acres will be developed with each farmer designated one acre.

The project is expected to benefit 23,600 people of Manga ward, the majority from better access to water for domestic purposes. 100 small-scale farmers will be involved in paddy production. Each beneficiary is expected to contribute \$12.5 before being allocated land in order to demonstrate commitment.

Provision of water supply and sanitation services Bomet District (\$250,000)

The project will benefit about 15,000 community members through provision of access to clean and safe drinking water and improved environmental sanitation activities. As part of an environmental conservation initiative, communities will be encouraged to plant trees on water source catchments. The environmental sanitation education awareness programme will contribute to the reduction in environmental pollution of the river basin benefiting the downstream users.

These small-scale projects can potentially be scaled up across the Basin. Thus, they act as pilots from which experience can be gained about the widespread implementation of similar investments. Such scaling up is not envisaged as part of this project since funds devoted to this component are restricted to 15% of the overall budget. However, additional funds may become available during the project from other donors.

The projects all have strong community ownership aspects with much of the development being undertaken by the beneficiaries with assistance from NGOs and CBOs under professional supervision. Government agency district officers will receive training in these developments as part of the construction activities.

Each project will need to meet the EIA requirements of the relevant countries and of the donor organizations. These requirements are expanded on in Section 4.6.

Further details of these projects are contained in Annex I.

Although these small-scale investment projects were identified by local beneficiaries and government ministries, none are yet ready for immediate implementation. The necessary design and environmental compliance work would need to be carried out as part of the funding provided.

4.0 CROSS-CUTTING ISSUES

4.1 PROMOTION OF GENDER EQUALITY

The gender equality issues shall be given particular attention and integrated in the project activities. For example, the Dublin Statement of 1991, amongst other international declarations, overtly recognises the central relationship of women to the collecting, providing, managing and safeguarding of water resources, and the negative consequences of perpetuating their historical exclusion from more active and direct control of such resources together with men. The need to mainstream a gender perspective in IWRM has been well established for some time; nonetheless gender inequalities abound at all levels.

Some of the activities to promote gender equality will include ensuring equal participation by women in decision-making processes and management of community-based small-scale investments, as well as promoting women's involvement in developing the long-term development strategy and selecting large-scale investments, and focusing on women-headed households, supporting greater access of women to credit, forming a women's project advisory council, and cultivating an equal opportunities employment policy in the project itself.

In all the project districts, there is a noted inequality between women and men in the access to and control over land, household capital assets, farm produce, education, credit and improved technology. Female genital mutilation is also practised in all the Basin districts.

The project will follow the principle of full inclusion of women in activities rather than the implementation of women-specific projects. To address gender concerns in local communities, community based activities in component 3 will be carried out in a participatory manner:

- Ensuring equality of participation of women in the decision-making process and management of the community-based small scale investments.
- Promoting the involvement of women in the development of a long-term development strategy and the selection of long-term investment projects.

Short term consultants will be hired to provide support to the project to ensure appropriate and consistent gender mainstreaming in the design, implementation and management of project activities.

4.2 HIV/AIDS PANDEMIC

Women are proportionally the most infected group in the region, while children and the aged are perhaps the most affected by its broader impacts, since they are left to take care of remaining family members. There are a growing number of orphans and children-headed households, with many children forced to cultivate the fields for their own and their younger siblings' survival rather than being able to attend school. This means 'risking their ability to survive and compete when they grow up'. There is also the loss of large numbers of the most productive and educated adults, with multiple long-term negative effects on the economy.

In the 6 districts of the Mara River Basin, HIV/AIDS is impacting badly on all sectors of the economy. The estimated rate of HIV/AIDS prevalence in the various districts is as follows:

- Musoma – 15%
- Serengeti – 4.5%
- Tarime – 17% (22% at the Nyamongo Mines)
- Transmara – Narok –Bomet – 12%

The rate of incidence of the disease has been rising steadily over the years, to the point where HIV/AIDS is no longer a medical problem but a development problem as the impact on the working force is having serious effects on the productivity and output of the agriculture sector.

The project will indirectly assist combat this pandemic by promoting income generation amongst the rural poor, and improving health and sanitation at selected places through the small-scale investments.

The implications of the HIV/AIDS pandemic need to be taken into account throughout the implementation of the Project in order to ensure the sustainability of the capacity building activities.

While the project is not geared towards addressing HIV/AIDS directly, it will find ways to mainstream HIV/AIDS into project design and implementation.

4.3 POVERTY ALLEVIATION

Poverty is widespread in the Mara River Basin. More than half the population has an annual income that is below the absolute poverty line. The literacy rate is only around 80%. Access to safe drinking water as well as proper sanitation facilities are limited. The poverty in the rural areas creates economic and social problems as a result of lack of development opportunities, security over resources and decision-making powers.

The dependency on agriculture is extremely high, with 90% of the population being totally dependent on agricultural production and output. Agricultural productivity in the Basin remains low, caused by lack of agricultural inputs, outdated agricultural practises, soil erosion, wide spread land degradation, in combination with a high population pressure etc.

Poverty alleviation is at the centre of this project's objectives. Attracting investment for development is the way to provide alternative incomes that will help reduce poverty levels. The framework for trans-boundary development along with the suite of major investment proposals is intended to provide this investment.

4.4 INSTITUTION AND CAPACITY BUILDING

The primary objective of this project is to establish sustainable institutional frameworks for transboundary integrated water resources management and development. In this sense, all the project outputs and activities are in one way or

another implicated in the question of institutional sustainability. The project will endeavour to address challenges of institutional sustainability and shall ensure that :

Sufficient clarity and commitment within individual countries, and harmonisation between countries, with respect to the key institutional reforms and policies relevant to IWRM&D. This will require some flexibility in handling and adapting to the different focus and pace of these processes, which are so critical to the establishment and sustainability of the anticipated transboundary arrangements.

Appropriate and effective project management structures and actors – including the PMUs, RPSCs, and NLOs – enabled to deliver the required project outputs, in particular a transboundary cooperative framework, enhanced capacity in relevant government WRM agencies in the basins, and availability of appropriate WRM planning and monitoring tools and equipment. Among the concerns is whether or not the RPSCs will be sufficiently able to act as de facto river basin commissions; and the possible reallocation or absorption of project management staff (from the PMUs and NLOs) into existing and/or new institutional IWRM&D structures. This equally concerns the future of the NEL-CU and of its well qualified and experienced staff.

The strengthening of national WRM institutions and related agencies with responsibility for sustained IWRM in their respective settings. In this regard the project focus should not be on developing capacities and procedures merely for or within the project management structures, but rather that these be grounded in relevant national institutions responsible for IWRM&D. At the same time, capacity building needs to be oriented towards key social concerns, and not only to technical and administrative considerations.

The establishment and strengthening of appropriate stakeholder participation fora and mechanisms at all relevant levels. Stakeholder participation is critical to overall institutional and social sustainability. An inclusive approach will be used both in terms of who is included and how they are included in defining and deciding upon key aspects of WRM and development investments in the basins.

The sustainability of technical and information management equipment and procedures established through the project. Adequate analyses and provisions shall be made to ascertain that all equipment and technical systems procured and produced by the projects are adapted and handled over to the concerned institutions in such a manner that they can be sustainably used and maintained.

Much of the project's work will be directed towards developing sustainable water resource management institutions and enhancing the ability of staff and water users. The project will provide office and technical support, training for staff in transboundary water resources management and will build support amongst the public in the long-term benefits of this approach.

Although it will be difficult for this Project to directly address issues of democracy and human rights, impact can still be achieved by focussing on good governance while building capacity throughout the Basin.

The water reforms in both countries will be reliant on good governance at national, Basin and local levels. The understanding of good governance is still low among

decision makers, particularly at village levels, where a top-down approach still is widely used. The capacity building activities will seek to improve the understanding of a participatory approach amongst decision makers at Basin and local levels. This will contribute towards the success of the water reforms generally as well as more specifically towards achieving the project outcomes.

4.5 WATER DEMAND MANAGEMENT

Water demand management is generally defined as the adoption of a strategy to reduce water consumption and increase efficiency in order to use the water resource more effectively.

The strategy typically includes charges for the water resource as well as for the costs of supplying the water, technical improvements in delivery efficiency (reducing leaks, etc), provision of water savings devices for end consumers, and education campaigns to raise awareness of the scarcity of good quality water. These strategies are generally implemented at utility level.

The introduction of water user fees within the water reform agendas is a step towards demand management. While these fees may not be high enough to influence demand initially, they can be increased later if water becomes scarce. For the time being, water demand in the Mara basin is still very low compared to the water available in the river.

The small-scale irrigation schemes and water supply/sanitation schemes being introduced as part of the small-scale investments will use efficient technologies to minimize water losses.

4.6 ENVIRONMENTAL IMPACT ASSESSMENT

The level of environmental impact assessment for proposed development projects differs in Kenya and Tanzania (see annex X). Kenya passed the Environmental Management and Coordination Act in 1999 which requires that EIA be carried out for development projects in the agriculture, commerce and industry, transport, human settlement and infrastructure, forest, water resources, mining, energy, tourism and fisheries and aquaculture sectors. On the other hand, Tanzania has a policy that expresses intent to use EIA, but has only encoded this intent in some sectoral laws. These include the Forest Act (2002), which requires an EIA for developments, including agricultural developments, within forest areas. However, only Kenya has now developed guidelines for processing EIAs. To date about 70 (mainly small) projects have been subjected to EIA assessment.

In the event of a transboundary project arising, Kenya's National Environmental Management Agency's guidelines state that it will use existing procedures to notify the affected country on the basis of reciprocity and an enabling instrument. Although Tanzania has not yet issued its equivalent guidelines it is likely that it would adopt a similar principle given the intentions expressed in its water resources policy. Thus, there is a basis for harmonizing the environmental assessment of trans-boundary development activities.

5.0 PROJECT IMPLEMENTATION ARRANGEMENTS

5.1 INTRODUCTION

The project will be implemented within the established NELSAP framework over a period of four years. This will provide access to the other projects of the NELSAP portfolio as well as to the SVP projects. In addition close liaison will be established with LVEMP and other donor projects so that synergies can be developed where necessary.

The project management structure is shown in Figure 2.

5.2 PROJECT AGREEMENT AND ESTABLISHMENT

SIDA on behalf of the development partners (SIDA/NORAD) will enter into a Project Grant Agreement with NILE-SEC Executive Director on behalf of the two countries of Tanzania and Kenya. The Executive Director of NILE-SEC is authorized to sign the agreement on behalf of the countries, thereafter, delegating to the NEL-CU to manage and coordinate the project activities.

The NEL-CU will be responsible for establishing and staffing the PMU and facilitating the appointment of National Liaison Officers in liaison with the RPSC members and relevant government agencies. The NEL-CU will have an important co-ordinating and facilitation role in relation to the implementation of the Mara project and other sister projects of Kagera and Sio-Malaba-Malakisi. There will be a supervising Regional Project Steering Committee (RPSC) constituted by the relevant government agencies of Kenya and Tanzania, and NELCU. The RPSC members have been selected (see annex VI).

In order to co-ordinate and facilitate the implementation of project activities at the national level, part-time National Liaison Officers (NLOs) will be appointed by the governments of Kenya and Tanzania. They will devote 30% of their time to the project and ensure project activities are executed in their respective countries.

5.3 PROJECT MANAGEMENT AND IMPLEMENTATION

A small Project Management Unit (PMU) will be based in Musoma in Tanzania, near the outlet of the Mara River. A Project Manager, who will be supported by a Project Officer and a Project Financial Officer, a secretary and two drivers, will head the PMU. PMU staff will work in coordination with NEL-CU located in Kigali, Rwanda.

The Project Manager will be recruited competitively, with preference given to candidates from NELSAP member countries benefiting from the project other than Tanzania that is hosting the PMU. The Project Officer and Financial Officer will be recruited competitively, with preference given to candidates from NELSAP member countries benefiting from the project. These positions will be advertised in the national, regional press. Support staff will be competitively recruited from Tanzania or regionally depending on local market response.

All PMU staff will be employed by NBI-SEC as consultants to NELSAP on 2-year contracts with a 6-month probation period, renewable on satisfactory performance for more 2 years

Project Manager

The Project Manager will be responsible for all aspects of project implementation, including:

- Prepare, implement and manage the project work plan
- Oversee the work of consultants assisting with project components
- Provide coordination between project components to ensure achievement of overall project objectives
- Liase with project stakeholders and coordinate project with other regional projects and government agencies, NGOs, private sector and other parties in order to facilitate implementation of project components
- Carry out project advocacy and project awareness roles and responsibilities
- Oversee the Project Officer and Project Finance Officer
- Organizing RPSC meetings in liaison with NEL-CU and following up on decisions
- Monitor progress and report to the RPSC on the progress of the project according to monitoring criteria established in work plan
- Providing documentation to RPSC and responding to recommendations of RPSC
- Promote project outcomes, especially the adoption of the major investment proposals by external development partners

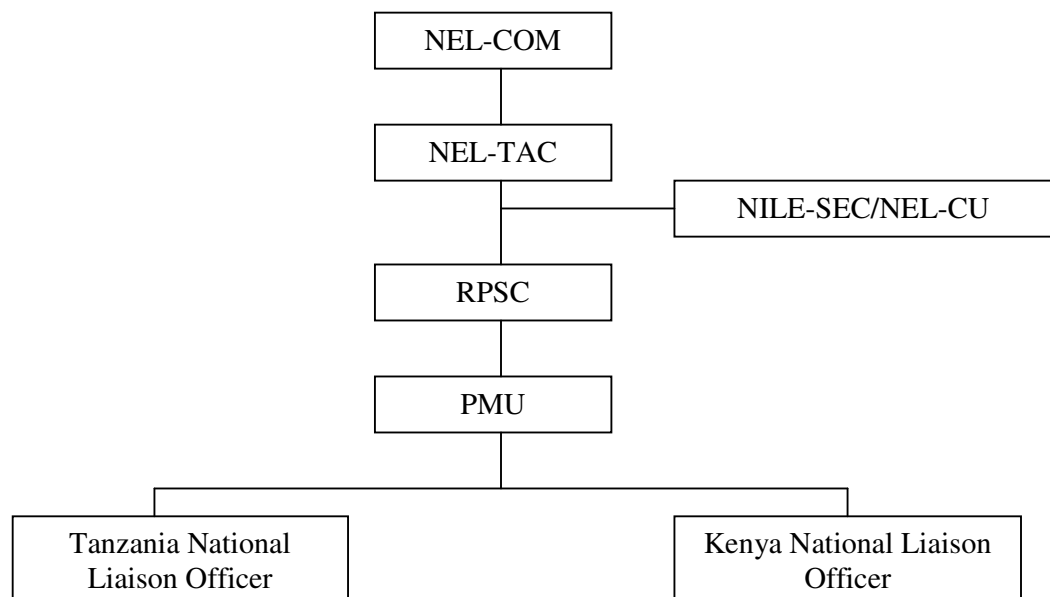


Figure 2. Project Management Structure

The Project Manager will report to the Chairman of the RPSC.

Apart from overall responsibility for the project, the Project Manager will take prime responsibility for conducting negotiations over the trans-boundary management framework (Component 1). Consultants will be contracted to undertake other work. While some tasks will require the expertise of international consultants, where possible national and regional consultants will be used.

National Liaison Officers

Part-time National Liaison Officers will be appointed by Kenya and Tanzania to promote discussions with government agencies and other organizations in each country over the transboundary framework and other matters, and to facilitate project activities, such fieldwork by consultants. Given that the success of the project will depend on cooperative action by each government in establishing a joint planning and management framework and in identifying and agreeing on mutually beneficial investment opportunities, these Liaison Officers have a key role.

Their duties would be:

- Promote the activities of the project, especially the adjustments to emerging regional management institutions to ensure that they can operate collaboratively across national borders
- Provide access for project staff within the relevant government Ministries
- Coordinate the activities of project consultants in the field
- Build links with their National Liaison counterpart to assist in future collaborative management

They will be appointed by the respective countries to the project from the commencement of the project implementation phase in order to facilitate implementation of project activities in their respective countries. Provisions have been made in the budget for an appropriate level of the per diem for fieldwork to provide sufficient incentive for the active participation of the National Liaison Officers in project related work.

Project Officer.

The Project Officer will assist the Project Manager in the day-to-day implementation of the project components. The officer will have a water resources background and experience in implementing development projects.

Project Finance Officer

The Project Finance Officer will be responsible for the financial management, which would include handling bank accounts, salary administration, payments and accounting, including monthly bank reconciliations and annual financial statements, as well as preparing financial reports as required to Nile-SEC/NEL-CU and the donors. The Project Finance Officer would report to the Project Manager.

Terms of reference are provided for the main staff members in Annex V.

5.4 PROJECT COORDINATION, SUPERVISION & REPORTING

The PMU together with NEL-CU will ensure effective coordination of the project at three key levels: firstly in terms of coordination mechanisms and procedures for effective project implementation; secondly, in terms of broad intersectoral coordination; and thirdly in terms of long-term, transboundary coordination. This is the very basis for appropriate and sustainable transboundary IWRM&D concerns effective coordination amongst all relevant actors, information and activities. Coordination shall be the guiding principle in the design of project outputs and management structures and procedures.

There will be annual stakeholder meeting where all key stakeholders are invited to discuss the project progress, use lessons learnt to draw up a new action program in a participatory manner. The process approach shall be the guiding principle in the annual stakeholder meetings.

The RPSC members will meet regularly on quarterly basis that will be attended by the NELCU and Project Manager. The RPSC committee will review project quarterly progress reports and guide the implementation of the project.

During preparation of project annual workplans relevant intersectoral government officials responsible for agriculture and livestock, industry, environment, tourism, energy, etc, will be invited to participate in an annual planning workshop. This will ensure that all multi-sectoral components of the project are adequately addressed.

Short term consultants (Social scientist, institutional consultant, etc) will be hired to provide technical assistance to the project. They shall give input to the project planning process to ensure cross-cutting issues (mainstreaming HIV/AIDS, institutional, capacity building, etc) are adequately integrated.

At project level the project will be coordinated and facilitated primarily through the Regional Project Steering Committee Project Management Unit and the National Liaison Officers (NLOs).

A consolidated Information Management Strategy shall be developed in the early stages of the project. This refers to developing a general strategy that will ensure attention during project implementation to all the different aspects of information gathering, storage, dissemination, maintenance, and use in IWRM&D. This shall cover both technical data and other kinds of information generated during and after the project which will facilitate effective and sustainable transboundary IWRM&D. Wherever relevant and possible, data shall be disaggregated on the basis of gender.

Successful transboundary IWRM&D will rely on strong cooperation at all appropriate levels in the sharing and flow of water data and other information. However, not only does this require agreed formats and capacities for data and information exchange, but also the political will to do so. This will be a gradual process based on the building of trust and common goals between the respective riparian partners at multiple levels.

The project will be supervised through a Regional Project Steering Committee (RPSC) comprising of 8 members, 3 representatives nominated by each country, the NEL-CU Regional Coordinator and NELCU Program Officer. The Project Manager

shall attend RPSC meeting as a resources person and observer. The RPSC meeting will be held on quarterly basis. The RPSC shall report to the Nile Equatorial Lakes Technical Advisory Committee (NELTAC).

Membership of the RPSC is given in Annex VI and the roles and responsibilities of key project actors are presented Annex VII

5.5 PROJECT MONITORING AND EVALUATION

There will project progress monitoring which is an already established procedure under most Sida-funded projects. This type of monitoring will basically establish whether activities are undertaken and completed on time. Together with data on disbursements this will also establish if serious budget constraints are imminent or likely to occur in the foreseeable future. Reports would be prepared on a semi-annual basis by the PMU and submitted to Sida/NORAD through the NEL-CU.

The impact of the project will be monitored through verification of the perceived benefits related to outputs at the level of overall objectives or Project purposes, including the identification of non-perceived benefits as well as eventual negative effects of Project interventions. Impact monitoring can only be carried out when sufficient time has passed to allow any possible impact to occur. In practice, this would be in Year 3 allowing conclusions to be drawn with regard to possible extension of the Project. Normally, the donor would commission a study to be carried out by an independent outside party.

Risk monitoring will be undertaken that would include careful monitoring of identified risks to Project goal achievement, including but not necessarily limited to the risks highlighted. Sida will the monitor those risks in conjunction with annual reviews of the Project.

The project will conduct semi-annual meetings between the agreement partners for the first two years of the project duration. Sida shall be responsible for follow-up, monitoring and evaluation on behalf of the two governments, but a Norwegian representative shall participate in the semi-annual meetings.

External missions will monitor the progress of the project. They will visit the project at least twice annually. This would consist of one external monitoring team, consisting of one international consultant with broad-based IWRM experience and one local consultant with good local IWRM knowledge. One of the annual monitoring visits should precede the annual consultations between the donors and the NBI, NEL-CU, RPSCs and PMUs.

Considering the expected outcome of the projects, and the planning horizon of four years, a proper evaluation of project results should only be undertaken in connection with project completion at the end of or after the project period. The regular monitoring shall obviate the need for a mid-term review.

5.6 PROCUREMENT AND DISPOSAL OF ASSETS

The procurement function will be handled at the NEL-CU level for all the three projects (Mara, Kagera and Sio-Malaba-Malakisi) using World Bank Procurement

guidelines. A qualified Procurement Officer will be employed to deal solely with procurement matters for all the three projects. This will allow a rational and efficient procurement process, with more possibility to learn from the experiences of all the three projects, and a higher degree of control.

The Procurement at the NEL-CU level will be handled by a Procurement Committee consisting of the NEL-CU Regional Co-ordinator, the NEL-CU Programme Officer, the NEL-CU Procurement Officer and in respect of the Mara project, one RPSC member and the Project Manager. The Procurement Committee shall be responsible for inviting tenders, for approving tender evaluations and for awarding contracts.

The PMU staff will be responsible for preparing technical specifications (for goods and works) or Terms of Reference (for consulting services). The Procurement Officer at NEL-CU will handle other tender documents. The NEL-CU Procurement Officer to be recruited, as well as NEL-CU procurement committee will need initial training in procurement under World Bank procurement procedures. This will be provided by the UNOPS team supporting NBI projects together with Nil-Sec staff under short term input consultancy budget line. This will take place in the early part of the project during the period when recruitment is on-going to create necessary capacity and competence of the NELCU procurement committee in handling procurement matters.

All goods and equipment (vehicles, etc) purchased within the framework of the project shall be a property of NELSAP/NBI for the duration of the project. However, depending on the process of establishing the institutional frameworks, then the project assets would be transferred to the established institution being tasked to continue the management and development work in the basin. NELCOM and RPSC's will provide the necessary guidance on this issue as the project move forward.

Procurement will consist of approximately 10 contracts as described below.

Contract	Type	Value (\$)
1. Provision of legal, institutional and policy analysis for development of cooperative framework	Lump sum. International Competition (preference for regional consultants)	387,500
2. Provision of specialist analysis for writing chapters of Monograph	Lump sum. International Competition (preference for regional consultants)	393,000
3. Development and operation of a simple river basin hydrological model	Lump sum. International competition	167,001
4. Conducting pre-feasibility studies (3 investment areas)	Lump sum. International competition	292,003
5. Provision of training and capacity building for national and regional staff of Water Resources Departments	Lump sum. Regional competition	90,000
6. Community awareness raising in the river basin	Competitive selection from NGO and CBOs active in the Basin	50,000
7. Design and installation of hydrometric network and guidance of water quality survey	Both International and Regional competition	90,000

8. Design and implementation of small scale investments	Either direct allocation to government agency or National competition	450,000
9. Short term Consultants (various contracts)	Both International and Regional competition (preference for regional consultants)	150,000
10. Provision of vehicles, office supplies and IT support (various contracts)	National competition	114,000

5.7 FINANCIAL MANAGEMENT ARRANGEMENTS

The PMUs will legally form part of the Nile-SEC organisational framework. Financial management in the projects will thus be performed in accordance with the principles set out in the Nile-SEC Financial Management Manual. As part of the project establishment, project specific operating procedures, including financial procedures, will be prepared during project inception.

5.7.1 Project accounts

Mara River basin project will have a local project account in a bank in Musoma town where the PMU office is located for handling all local payments. In addition a common bank account in Kigali with NEL-CU will be established to receive donor funds and from which payments to suppliers and international consultants should be made. The NEL-CU Coordinator and NEL-CU Programme Officer shall be co-signatories for such payments from the common bank account. The NEL-CU Programme Officer and the Mara Project Manager shall be co-signatories for such payment vouchers and certificates.

5.7.2 Financial Reporting

Financial control in accordance with the Nile-SEC Financial Management Manual will be exercised by the Finance and Administration Section (F&A) of the NILE-SEC delegating to the NEL-CU Finance Officer. The project will submit quarterly financial progress reports which are scrutinised by the NEL-CU Finance Officer, who will also make visits to the project to check on the adherence to the financial control systems, entries in the accounts and bank reconciliation. The quarterly financial progress report shall form part of the overall quarterly project progress report that will be submitted to the Donors after review by the NEL-CU.

5.7.3 Project audit

The NEL-TAC will appoint independent auditors registered with an internationally recognised accounting and auditing body to undertake internal audit of project activities and expenditures at the PMU and NEL-CU. The audit requirements set out in the Nile-SEC Financial Management Manual that are fully in line with Sida requirements will be used.

The Project shall be audited annually by SIDA on behalf of the development partners SIDA/NORAD. The audit shall be carried out by an external, independent and qualified auditor. The audit shall be carried out in accordance with international standards issued by International Organisation of Supreme Audit Institutions (INTOSAI) or the International Federation of Accountants (IFAC). The terms of reference for the audit and the selection of auditor shall be approved by Sida.

5.7.4 Financial disbursements

Financial disbursements shall be made by Sida on a quarterly basis. Disbursements shall be made to a joint account with NEL-CU in Kigali for the three river basin projects(Kegeza, Mara and Sio-Malaba-Malakisi), but shall distinguish the amount

disbursed with respect to Mara project. The first amount disbursed shall be agreed in the agreement between Sida/NORAD and the Nile-SEC/NEL-CU. Subsequent replenishments shall be based on the amount utilised during the preceding quarter and a forecast of the amount needed during the forthcoming quarter.

Sida shall disburse all project funds to NEL-CU and shall not make any direct payments to suppliers and consultants. The NEL-CU shall retain such amounts as are needed for such payments, as well as funds needed for NEL-CU costs for the projects, at the NEL-CU account. Funds needed to cover costs at the local PMU level shall be forwarded to the PMU bank accounts. All payments in the projects shall be by way of bank transfers, unless specific authorisation to make cash a cash payment is given by the Nile-SEC Financial Controller/Administrator.

5.8 STAKEHOLDER PARTICIPATION AND COORDINATION

The project will undertake during early project implementation of activities to design an overall Stakeholder Participation Strategy that indicates how stakeholder participation will be facilitated in relation to who it is relevant to include (or exclude), when, and in relation to which activities and processes at which levels. The project will also ensure that all key stakeholders participate in both the project process and in joint IWRM&D in the long-term.

Because stakeholder participation, if well-designed and facilitated, has the potential to address a number of critical concerns regarding, for example, the relevance, effectiveness and sustainability of project outputs, as well as such core cross-cutting issues as poverty reduction, equitable resource distribution, gender balance and democratic participation. Ideally it would ensure that those most concerned with IWRM&D – including water users, government agencies and various non-governmental support and service organisation – are appropriately informed, consulted, capacitated and empowered in relation to defining access to, use, control and management of the available shared resources.

Stakeholder participation in the longer-term will necessarily form part of the institutional frameworks and mechanisms to be developed in the respective projects for transboundary IWRM&D.

The project will maintain close coordination with the other River Basin Management projects in the NELSAP portfolio. The development of a framework for transboundary basin management will involve similar issues and contact with the same people at national government level in Kenya (Sio-Malakisi-Malaba project) and Tanzania (Kagera project). It would be beneficial for both the projects and the national government officials to have these discussions coordinated. Other components of these projects are also similar – training, database development, production of Monographs - and may benefit from coordination. The NEL-CU office will carry prime responsibility for this coordination.

The project will also work closely with the NBI SVP program to obtain support for capacity building activities, design and installation of flow monitoring stations and the water quality survey, and development of a simple flow model for assessing scenarios.

The project will necessarily work closely with national and basin staff of the water resources authorities in each country as part of the development of the framework, for capacity building, for the assessment of the development scenarios and the preparation of the long term investment proposals. They will also need to work with officers from the regional offices of a range of government Ministries (Water resources, agriculture, forestry, etc) when implementing the small-scale investments.

The project will work closely with relevant NGOs and CBOs active in the Mara Basin. These include WWF, which has field offices in Narok and Musoma, the Nile Basin Discourse (NBD) and the newly established consultative forums, and CBOs engaged in local development work. The NBD, being a CBO, can assist with consultations, confidence building, database compilation and identification of Project stakeholders. To the extent possible, the capacity building activities can be carried out in conjunction with the work of the WWF project in the Basin. The project should also link up with the many NGOs and CBOs that are addressing the extensive deforestation that has taken place in the Mao escarpment, including Forest Action Network (FAN), the Kenya Forestry Working Group (KFWG) and the Friends of the Mau for assistance in community capacity building and for identification of further small scale and large scale investment opportunities if further funds become available.

Given the common features between the three River Basin Management projects and the need for all to work with other organizations active in the three basins, we propose that an annual meeting be held with the three RBM projects. The organizations with which each Project is working would be invited. The purpose of the meeting is to report progress, develop improved coordination mechanisms and to discuss difficulties.

5.9 GOVERNMENT CONTRIBUTIONS

The beneficiary countries of Kenya and Tanzania will make contributions to the projects as presented below. The NBI through the Nile-SEC/NELCU will undertake to ensure that each concerned country, by a written agreement (a Protocol) will commit itself to providing the resources detailed in the project documents.

Tanzania will provide a well-maintained and secure office for the PMU in Musoma free of rental for the four year duration of the project. The office would have telephone and Internet access and would have sufficient space for the four PMU staff plus rooms for four visiting consultants. Storage space and secure garaging of vehicles would also be provided. Equipping and operating the office would be the responsibility of the PMU.

By written agreement, Kenya and Tanzania will each appoint a senior Government official as a National Liaison Officer within their water resources ministries who would devote 30% of their time to this project. The project will support him/her in form of field allowance (travel and accommodation) while out of their duty station on project activities. These officers will coordinate the country consultations by the consultants, accompany them on fieldwork and ensure follow up of the implementation of small-scale investment projects as well provide a linkage and synergy of the project activities with national policies and priorities.

Tanzania and Kenya will provide three senior officers each to serve on the RPSC. The costs of their time will be provided by the governments; travel and accommodation costs will be provided by the project.

The project will install hydrometric stations. However, the collection and storage of data from the stations will be the responsibility of the relevant water resources Ministries. They will need to ensure that staff is available for data collection, analysis and storage and that resources are available to maintain the stations.

The project will carry out a water quality survey and will support the operational costs of this activity. The countries will provide staff from their water resources departments to design and carry out the water quality survey with input from a regional/international consultant to the project.

Kenya and Tanzania will share all the information available to them or emanating from the project, required to achieve the project objectives.

Kenya and Tanzania countries shall allow all goods purchased for the purposes of the projects and financed out of project funds to be imported without the imposition of any customs duties and other taxes and levies, and no taxes will be charged on consultancy services within the framework of the projects and all goods purchased for the project and by such consultants shall be granted VAT exemption.

The Government of Kenya and Tanzania shall allow all international project personnel employed by the PMUs or NEL-CU on behalf of NBI to enjoy tax exemptions on all remuneration from Nile-SEC.

5.10 SCALING UP INVESTMENT ACTIVITIES

The longer term investment opportunities will be based on development scenarios developed within the Basin. The RPSC will be responsible for promoting the development dialogue at the basin level within the NBI and NELSAP and for overseeing the leveraging and mobilizing of additional funds to those included in this project. These additional funds will be used to undertake the feasibility work for the long-term, large-scale development proposals that will be the vehicles for bringing growth and poverty reduction to the Basin.

The PMU under the guidance of the respective RPSC will be identify Large-scale investment opportunities in the basin arising from the developed investment strategy, investment opportunities and development scenarios in the basin. The identified investment opportunities will be screened and ranked according to an agreed criteria that will include among others: contribution to poverty reduction and/or environmental protection, directly water related, relatively large in size, and transboundary in nature. Once the Large-scale investment opportunities has been selected after the ranking, project pre-feasibility studies will be conducted to define the project details.

The preparation and management of some pre-feasibility studies will be financed under resources budgeted for this activity under the project.

Additional funds estimated at USD 5 Million will be sourced from co-operating partners to support the development of Large-scale investment project feasibility studies and preparation of project documents. These funds could be set aside as one or several Trust Funds in the Nile-SEC accounts. The Trust funds will be established and managed at the level of NEL-CU, in coordination with the PMU. The RPSCs shall be the decision making body with regard to allocation of such funds, ensuring appropriate co-ordination between the PMUs and the Trust Fund staff.

6.0 PROJECT SUSTAINABILITY, RISKS & ASSUMPTIONS

6.1 PROJECT SUSTAINABILITY

6.1.1 Institutions

The primary objective of this project is to establish sustainable institutional frameworks for transboundary integrated water resources management and development. In this sense, all the project outputs and activities are in one way or another implicated in the question of institutional sustainability. The project will endeavour to address challenges of institutional sustainability and shall ensure that :

Sufficient clarity and commitment within individual countries, and harmonisation between countries, with respect to the key institutional reforms and policies relevant to IWRM&D. This will require some flexibility in handling and adapting to the different focus and pace of these processes, which are so critical to the establishment and sustainability of the anticipated transboundary arrangements.

Appropriate and effective project management structures and actors – including the PMUs, RPSCs, and NLOs – enabled to deliver the required project outputs, in particular a transboundary cooperative framework, enhanced capacity in relevant government WRM agencies in the basins, and availability of appropriate WRM planning and monitoring tools and equipment. Among the concerns is whether or not the RPSCs will be sufficiently able to act as de facto river basin commissions; and the possible reallocation or absorption of project management staff (from the PMUs and NLOs) into existing and/or new institutional IWRM&D structures. This equally concerns the future of the NEL-CU and of its well qualified and experienced staff.

The strengthening of national WRM institutions and related agencies with responsibility for sustained IWRM in their respective settings. In this regard the project focus should not be on developing capacities and procedures merely for or within the project management structures, but rather that these be grounded in relevant national institutions responsible for IWRM&D. At the same time, capacity building needs to be oriented towards key social concerns, and not only to technical and administrative considerations.

The establishment and strengthening of appropriate stakeholder participation fora and mechanisms at all relevant levels. Stakeholder participation is critical to overall institutional and social sustainability. An inclusive approach will be used both in terms of who is included and how they are included in defining and deciding upon key aspects of WRM and development investments in the basins.

The sustainability of technical and information management equipment and procedures established through the project. Adequate analyses and provisions shall be made to ascertain that all equipment and technical systems procured and produced by the projects are adapted and handled over to the concerned institutions in such a manner that they can be sustainably used and maintained.

Sustainability is to a considerable degree a question of the establishment and functioning of the new institutional structures for water resources management now being established in Kenya and Tanzania. This Project is basically an effort to

augment this institution building with a trans-boundary component and to prepare projects that will have transboundary benefits.

Provided the ongoing reform work in Kenya and Tanzania continues to make reasonable progress, it should be possible to have all the basic structures in place by the end of the Project period together with a clear programme of investment to be commenced during the subsequent period. The situation in this regard varies considerably between Kenya and Tanzania. While all the main structures are in place in Tanzania, the new system remains to be set up in Kenya.

This project will modify and augment these national institutional structures by adding a trans-boundary dimension to their operations. The RPSC will, thus, be key to ensuring that these adjustments are recognized and carried out in each country. The RPSC itself may evolve into a trans-boundary management committee – these are the decisions that will need to be made under component 1.

6.1.2 Finances

Lack of adequate funding for enforcement, operations, maintenance and development has strongly contributed to the present, unsatisfactory situation in both countries. One of the objectives of the ongoing reform process is to replace the existing dependence on central government funding of the water resources management activities with water levies collected from the water users. These funds will be difficult to collect from water users who have not received adequate service in the past and who regard access to clean water as a natural right. Their involvement through advisory structures and real role in decision making will be key to these fees being collected and applied to water resources management.

Tanzania has already started this process. The Lake Victoria Basin Office in Mwanza operates on a mixed funding system where salaries of the permanent staff and major investments are provided under the consolidated budget, while operational expenses, maintenance cost and minor investments are expected to be covered by water user fees and pollution charges. In reality, the annual revenue collected from water users only covers about 40% of the estimated requirements. One of the problems is that some of the big customers like urban water utilities are very late payers. Another problem is the lack of effective sanctions against non-payers. Only over time and as a result of economic growth will there be a sufficient revenue base for the water resources management activities.

In Kenya, the existing system for water permits and the charging for raw water is in a state of transition towards a “user pays” system based on catchments with the new system is being introduced through a two-year transitional period. The system is designed to generate sufficient income to cover staffing and operational costs of the new WRMA although, in the short and medium term, the Central Government would retain the responsibility for major investments.

Experience from other countries in Africa shows that the new system is likely to be only partially successful with incomplete identification of water users, resistance from water users to paying fees, and pressure from central government to appropriate the revenues. Nevertheless, the new system is expected to be considerably more sustainable than the previous centralized system.

PROJECT RISKS & ASSUMPTIONS

The main Project risks are identified in the **Project LFA (Annex II)** and are discussed below.

Political and macro-economic instability

The political relations between Tanzania and Kenya are good and stable. The countries membership in the EAC further underlines their commitment to political and regional economic collaboration. Both countries have growing economies and are actively addressing inequalities e.g. as regards human rights and poverty. Although unlikely, it is possible that political tension could develop and undermine the successful completion of the Project. *Rating: low*

Political will to develop a framework for joint IWRM

It could be difficult to reach agreement between the two governments about sharing of the waters of the Mara River particularly given the different attitudes expressed in the recent national Water Policies regarding international obligations. In addition, the upstream country (Kenya) has little economic incentive to reduce pollution and degradation of the water body for the benefit of downstream countries.

On the other hand, in jointly supporting this project each country is expressing a willingness to proceed with joint water resources management. There is no reason to doubt the willingness to implement the framework that is developed. *Rating: low.*

Reform Processes Maintain Momentum

The ongoing reform process in the water resources management sector is not only depending on political support but also of the determination and drive of the staff responsible for introducing the new system. The Project design assumes that the ongoing reform measures are implemented according to existing plans and schedules.

The risk is that unexpected problems and shortcomings in the reform process delay the process. This type of risk is more pronounced in Kenya than in Tanzania where catchment and national level structures are in place. Thus, the Lake Victoria Basin Office is already operational in Tanzania, but the regional office of the WRMA in Kenya and its CAAC have yet to be established. *Risk: Moderate*

Availability of suitable staff

Much of the success of the project, especially the negotiations over an acceptable framework for trans-boundary water resource management, will depend on the ability of the staff involved. The appointment of the Project Manager is key. This person will need to have a diversity of skills from administrative management to communications to framework negotiation. Such people are hard to find.

High quality staff are in considerable demand within government Ministries and it may be difficult to appoint the appropriate people to the National Liaison Officer roles or to ensure that their time is devoted to this work.

One specific staff risk is that Ministry staff will not be available or will not receive sufficient funding to operate and maintain the river gauging network. The water user fees permitted under the countries' water reforms are intended to be used for such purposes but there is a significant risk that insufficient fees will be collected or that they will be diverted to other uses. *Risk: Moderate.*

Availability of Data

An informative Mara River Monograph and analysis of the Development Scenarios will depend on access to all available data. The project preparation consultancy has shown that these data are held in different institutions, sometimes at regional and sometimes at national level, on different media and with different levels of access. Access to these data will require good cooperation from government agencies. The National Liaison officer will be key to assisting consultants obtain this information.

The data to be collected from the monitoring network will be shared between Tanzania and Kenya. This is an essential step towards cooperative management of the Basin. However, there may be resistance to such sharing within Ministries and it will take firm guidance from senior levels to ensure that the data sharing occurs. The RPSC members would be key to promoting this openness. *Risk: Moderate.*

Agreement Reached on Long Term Investments

The selection of long-term investments for donor or private sector funding is key to reducing the poverty of the Basin. However, the benefits from these investments may accrue unequally to different interest groups and between the two countries. The fundamental rationale of cooperative trans-boundary management is that both countries are better off with such cooperation than either is without it. It will require both countries to take a 'big picture' approach to the development of these investment proposals. *Risk: low.*

Difficulty in Identifying Donors/investors for Long-Term Investments

There has been difficulty of proceeding with long-term investment projects in the Basin in the past. Donors would need to be assured of genuine development prospects for Basin communities and private sector investors would need to identify a good likelihood of a profitable investment. The establishment of the cooperative development and management framework for the Basin, the water reforms being undertaken at present, and the strengthening of capacity would all assist in attracting finance. *Risk: moderate.*

Delays in small scale projects disillusion communities

The small-scale investments are intended to build confidence at village and town level in the project and its objectives. Delays in implementing these investments because of necessary approvals or slowness in procuring contractors may prejudice communities against the project. There is a specific risk arising from the concentration of the Kenyan on improving the Bomet water supply and sanitation. It will be essential that this investment is accompanied by an wider education campaign to make it clear that this investment is of benefit to downstream water users as well as townspeople. *Risk: low.*

PMU is unable to maintain work program

The PMU has been deliberately kept small to maximize funds for project components. It is a fine line between having an effective PMU and assigning too much of the budget to this office. There is a risk that the Project manager will not be able to cope with both overseeing project administration and taking the lead in the development of the framework. On the other hand, the negotiations over the framework will be spread over a number of years and, being constrained by the pace of the water reforms, will not be continuously intense throughout that period.

NELCU is not able to secure further funding

One issue of concern is the risk of the NEL-CU being unable to secure funding to continue beyond its remaining few years. The NEL-CU is considered to be critical to the effective implementation of these three IWRM&D projects, as well as to NELSAP coordination overall. It is worth noting here that Sida is both the core funding agency for the NEL-CU as well as the lead financier of the Kagera River basin project, which potentially allows for minimisation of this risk. Risk Rating: *Medium*