

Table 24a. KIWMP Financial Cost Benefit Analysis, US\$ m

Comp	Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
	Programme costs																					
1	Programme Coordination and Management	11.32	10.24	4.32	4.21	4.06																
2	Wetlands Management Programme	5.87	6.00	9.62	8.48	8.57	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85
3	Watershed Management Programme	66.89	73.83	120.20	131.60	140.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Programme Capacity Building and Policy Development	0.97	1.61	2.06	2.26	2.15																
	Total Programme Costs	85.03	91.68	136.19	146.54	155.27	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85	3.85
	Programme Benefits																					
2&3	Wetlands Management Programme	0.00	0.00	2.07	3.11	4.14	5.18	6.21	7.25	8.28	9.32	10.35	10.35	10.35	10.35	10.35	10.35	10.35	10.35	10.35	10.35	10.35
2	Watershed Management Programme	0.00	17.38	35.80	55.75	79.80	88.01	96.21	112.61	112.61	112.61	112.61	112.61	112.61	112.61	112.61	112.61	112.61	112.61	112.61	112.61	112.61
	Total Programme Benefits	0.00	17.38	37.87	58.86	83.94	93.18	102.42	119.86	120.90	121.93	122.97	122.97	122.97	122.97	122.97	122.97	122.97	122.97	122.97	122.97	122.97
	Net Benefit Stream	-85.03	-74.30	-98.32	-87.68	-71.32	89.33	98.57	116.01	117.04	118.08	119.11	119.11	119.11	119.11	119.11	119.11	119.11	119.11	119.11	119.11	119.11
	NPV	215.71																				
	IRR	17.1%																				
	NPV Benefits	685.80																				
	NPV Costs	470.09																				
	BCR	1.46																				
	Switching value Costs	1.48																				
	Switching value Maintenance	12.86																				
	Switching value Benefits	0.69																				

Table 24b. KIWMP Economic Cost Benefit Analysis, US\$ m

Comp	Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
	Programme costs																					
1	Programme Coordination and Management	7.38	6.79	2.90	2.86	2.76																
2	Wetlands Management Programme	4.20	4.59	7.70	6.65	6.78	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99
3	Watershed Management Programme	47.93	61.75	102.58	112.90	121.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Programme Capacity Building and Policy Development	0.58	0.95	1.24	1.41	0.74																
	Total Programme Costs	60.08	74.08	114.42	123.82	131.29	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99
	Programme Benefits																					
2&3	Wetlands Management Programme	0.00	0.00	2.07	3.11	4.14	5.18	6.21	7.25	8.28	9.32	10.35	10.35	10.35	10.35	10.35	10.35	10.35	10.35	10.35	10.35	10.35
2	Watershed Management Programme	0.00	21.72	43.03	66.60	94.27	102.47	110.67	127.08	127.08	127.08	127.08	127.08	127.08	127.08	127.08	127.08	127.08	127.08	127.08	127.08	127.08
	Total Programme Benefits	0.00	21.72	45.10	69.71	98.41	107.65	116.89	134.33	135.36	136.40	137.43	137.43	137.43	137.43	137.43	137.43	137.43	137.43	137.43	137.43	137.43
	Net Benefit Stream	-60.08	-52.36	-69.32	-54.11	-32.88	104.66	113.89	131.33	132.37	133.40	134.44	134.44	134.44	134.44	134.44	134.44	134.44	134.44	134.44	134.44	134.44
	NPV	397.50																				
	IRR	25.8%																				
	NPV Benefits	779.53																				
	NPV Costs	382.03																				
	BCR	2.04																				
	Switching value Costs	2.08																				
	Switching value Maintenance	29.12																				
	Switching value Benefits	0.49																				

A final point of interest is the distribution of costs and benefits to riparian states, compared with their present physical and economic stake in the sub basin. The CBA of costs and benefits has been carried out by country is given in Table 25, together with the percentage shares of sub basin area, population and RGDP. Since the costs reflect stakeholder priorities when the project mix was selected no further comment is necessary, other than to note that while Burundi incurs 50% of programme costs it apparently gets only 39% of benefits. This is because costs were estimated according to the country in which they will be incurred, while benefits were estimated by sub watershed and subsequently divided between countries according to their area share of each. Akanyaru sub watershed for example is 62% in Burundi and 38% in Rwanda, so the benefits from project number B1, the costs of which are attributed entirely to Burundi, are shared between Burundi and Rwanda in the same ratio.

Table 25. Share of Financial Costs and Economic Benefits of KIWMP

Riparian State	Financial Costs US\$ m			Economic Benefits US\$ m			Share of KIWMP and Kagera Sub basin				
	WMP	WSM	Total	WMP	WSM	Total	Costs	Benefits	Area	Population	RGDP
Burundi	2.71	273.46	276.17	0.80	52.23	53.02	50%	39%	23%	33%	6%
Rwanda	1.89	114.32	116.21	3.70	39.47	43.18	21%	32%	36%	54%	83%
Tanzania	4.08	81.23	85.31	2.23	24.89	27.12	15%	20%	34%	9%	7%
Uganda	15.72	63.98	79.70	1.60	11.60	13.20	14%	10%	7%	4%	4%
Total	24.39	533.00	557.39	8.33	128.20	136.52	100%	100%	100%	100%	100%

Note: Costs and Benefits of Components 1,3 and 4 are excluded

The KIWMP CBA should be taken as an indication of the potential of the programme, not a predication of performance. The administrative complexities of programme start-up and the necessity to prepare further some of the projects for financing will inevitably delay implementation and reduce cross-project synergies. Nevertheless, the practical problems of implementation should not prejudice the attempt to attain the important economic benefits that the programme can bring to the Kagera sub-basin.

7.4.2 Analysis of component-level economic and financial rates of return

The financial and economic cost benefit analysis of the management, watershed and wetlands components of the KIWMP is presented in Table 26 respectively.

Table 26. Financial and Economic Indicators of Watershed Management Programme

	Programme Indicators	
	Financial	Economic
Net Present Value (NPV), US\$ '000	0.55	7.02
Internal Rate of Return (IRR)	10.3%	14.2%
Benefit Cost Ratio (BCR)	1.01	1.17
Switching values:		
Cost change	1.02	1.32
Maintenance change	1.03	1.39
Benefit change	0.99	0.85

Economic analysis of watershed management component

The programme performs poorly in financial terms. NPV is close to zero and IRR similar to the 10% discount rate used. Switching values are close to unity, indicating that only small increases in costs or reductions in benefits would be sufficient to make the programme financially unattractive. This is expected: the intention of the Wetlands Management Programme is not primarily to generate financial returns but to maintain or restore wetland quality. In economic terms the programme achieves a better rate of performance. It would

require a 32% increase in costs, a 40% increase in maintenance costs (taken at 10% of project costs per annum) and a 15% fall in benefit values to achieve an NPV of zero (and an IRR of 10%). NPV is positive and IRR exceeds the discount rate. It is arguable that this type of inter-generational, environmentally oriented investment merits a much lower discount rate, the use of which would improve programme indicators substantially.

Economic analysis of wetlands management component

The key financial and economic Wetland Management Programme indicators are shown in Table 27 below.

Table 27. Financial and Economic Indicators of Wetland Management Programme

	<i>Programme Indicators</i>	
	<i>Financial</i>	<i>Economic</i>
Net Present Value (NPV), US\$ '000	342.92	408.24
Internal Rate of Return (IRR)	23.1%	28.8%
Benefit Cost Ratio (BCR)	1.88	2.26
Switching values:		
Cost change	1.88	2.26
Maintenance change		
Benefit change	0.53	0.44

The programme performs very well in financial terms. NPV is positive and IRR is well above the 10% discount rate used. It would require a 188% increase in costs, and a 47% reduction in benefit values to achieve an NPV of zero (and an IRR of 10%). Switching values cannot be calculated by manipulating the maintenance charge (taken at 2.5% of project costs per annum). In economic terms the programme achieves an even higher rate of performance. The switching values indicate substantial increases in costs and reductions in benefits would be required to drive the NPV to zero.

The indicators for most of the Watershed Management Programme projects could be derived separately, though (as with the analysis for the WSM programme as a whole) the overhead costs of Components 1 and 4 are not included, so the indicators are over-estimated. Financial indicators are shown in Table 28 and economic indicators are shown in Table 29.

Table 28. Financial Indicators for Projects in the WSM Programme

<i>Project Indicator</i>	<i>B1</i>	<i>B2</i>	<i>B3</i>	<i>R1</i>	<i>R2</i>	<i>T1</i>	<i>T2</i>	<i>T3</i>	<i>TW1</i>	<i>TW3</i>	<i>U1</i>	<i>U2</i>	<i>U3</i>
NPV	44.11	28.93	55.18	21.08	21.86	34.39	-5.71	14.35	2.86	10.31	4.01	1.43	17.21
IRR	16.9%	18.2%	31.1%	19.2%	17.4%	27.4%	2.5%	20.9%	20.9%	21.1%	17.5%	11.8%	27.4%
NPV Benefits	149.77	78.63	98.86	57.71	67.52	59.15	8.94	31.84	6.23	25.70	11.45	13.26	29.67
NPV Costs	105.66	49.70	43.68	36.63	45.66	24.76	14.65	17.49	3.36	15.40	7.44	11.83	12.46
BCR	1.42	1.58	2.26	1.58	1.48	2.39	0.61	1.82	1.85	1.67	1.54	1.12	2.38
Switching value Costs	1.22	1.58	2.26	1.58	1.48	2.39	0.61	1.82	1.85	1.67	1.54	1.12	2.38
Switching value Maintenance													
Switching value Benefits	0.71	0.63	0.44	0.63	0.68	0.42	1.64	0.55	0.54	0.60	0.65	0.89	0.42

Table 29. Economic Indicators for Projects in the WSM Programme

<i>Project Indicator</i>	<i>B1</i>	<i>B2</i>	<i>B3</i>	<i>R1</i>	<i>R2</i>	<i>T1</i>	<i>T2</i>	<i>T3</i>	<i>TW1</i>	<i>TW3</i>	<i>U1</i>	<i>U2</i>	<i>U3</i>
NPV	56.99	40.32	63.73	28.38	34.81	38.30	1.56	18.50	4.62	15.10	5.23	5.01	20.27
IRR	20.0%	24.3%	42.2%	25.4%	26.5%	32.8%	14.0%	28.0%	45.6%	35.9%	21.5%	18.9%	37.2%
NPV Benefits	149.77	78.63	98.86	57.71	67.52	59.15	8.94	31.84	6.23	25.70	11.45	13.26	29.67
NPV Costs	92.79	38.32	35.13	29.33	32.71	20.85	7.39	13.34	1.60	10.60	6.22	8.25	9.39
BCR	1.42	2.05	2.81	1.97	2.06	2.84	1.21	2.39	3.89	2.42	1.84	1.61	3.16
Switching value Costs	1.61	2.05	2.81	1.97	2.06	2.84	1.21	2.39	3.89	2.42	1.84	1.61	3.16
Switching value Maintenance													
Switching value Benefits	0.62	0.49	0.36	0.51	0.48	0.35	0.83	0.42	0.26	0.41	0.54	0.62	0.32

7.4.3 Financial risks and safeguards to be incorporated into the Programme

A number of technical and financial programme related risks have been identified for which management systems and mitigation measures will be required. These are detailed in the IWRMP Annexes.

Budgeting and Reporting

- To safeguard the risk that project and sub-project budgets are not properly prepared or monitored, budget execution should be monitored through quarterly financial statements.
- By preparing a set of accounting and internal control procedures which are documented in operational manuals, this should reduce the risk of accountability and reporting difficulties.
- To reduce delays in the finalization and submission of annual financial statements, an internal financial reporting system should be established and implementing agencies should be provided training to use the system.

Accounting

- Misuse of and failure to account for project funds will be minimized through the establishment of accounting and internal control procedures which are documented in operational manuals with implementation of external audits.
- There may be accountability and reporting difficulties owing to the project's multiple accounting units (implementing agencies) and local coordinating agencies across sub-watersheds. The executing agency (PSC at country level) should be responsible for oversight of the financial management and ensure systems and capacity is recruited or made available to support the project financial management and reporting.

Internal Control

- Internal Audit and Internal control policies and procedures should be applied. The NELSAP should put in place an independent and effective internal audit and fiduciary risk management function to monitor program implementation.
- Quarterly or 6-monthly fund disbursements should be against Quarterly Financial Monitoring Reports (FMRs) to reduce fiduciary risk.
- For procurement; technical equipment and other goods costing US\$ 150,000 and more per contract should be subject to International Competitive Bidding (ICB) requirements. For goods in the range between US\$ 80,000-US\$ 150,000 contracts may be awarded on the basis of National Competitive Bidding (NCB). For goods contracts below US\$ 80,000 contracts will be awarded on the basis of the World Bank's Shopping procedure.
- In the riparian states may have weak capacity for auditing of weak audit capacity at the executing and implementing agencies. In this case, accounting and internal control procedures need to be established and documented in operational manuals.

7.4.4 Technical risks and safeguards to be incorporated into the Programme

The following technical related risks may need to be managed; suggested mitigation measures and safeguards are proposed. This is detailed in the IWRM Action Plan Annex A and the sub-project level risks analysis is presented in each Fiche.

Political and Strategic

- Problems related to involvement and co-operation of stakeholders to work cross-sectorally may threaten the completion of integrated watershed management sub-projects. There will have to be a clear commitment of the Ministries at PSC level and implementing agencies to the sharing of data and joint programming. Area-based planning approach that promotes cross-sectoral data sharing.
- Conflicts among stakeholders as regards roles in the project may lead to the uncoordinated approach to local delivery and threaten successful project implementation. The stakeholder involvement should be detailed clearly in the stakeholder involvement plan and local government and community agencies should understand their roles with respect coordination and implementation.
- To mitigate against weak political will there should be a process of early awareness-raising among the decision-makers and developing leadership/ champions within national steering committees. This can be supported by: a review and confirmation of alignment of sub-projects with national and sub-national plans at the inception stage; provide support to government to organise annual consultations on project progress in order to maintain government ownership and interest in the project; through the PSC and regional coordinating entities, maintain collaboration with other cooperation projects which will help to maintain political visibility.
- Poor co-ordination among implementing and executing agencies will lead to delays in deliverables. Clear Project Management arrangements and MoUs or related agreements should be in place before project start up.

Technical and Strategic

- If there is limited capacity within relevant ministries/ or insufficient qualified human capacity which may risk project implementation or completion a technical and capacity building expertise will be contracted in, to work with and train local technical staff. Alternatively, a dedicated National Project Coordinator within the Implementing Agency should be supported with short term national and international specialist support to ensure smooth and timely delivery of project outputs.
- Communities may not adopt catchment and wetland management activities which will threaten implementation and success of sub-project activities. The project will apply local level environmental planning approaches that include establishment of local rules to ensure basic needs are met and an effective catchment governance structure that builds local buy-in to each sub-project.
- There is a risk of lack of commitment from communities which can threaten implementation and success of project activities. The implementation should avoid a 'top down' approach and seek to create community ownership of all interventions through farmer training and participatory planning and reviews to get buy-in to design of specific actions.
- Small scale catchment and water management infrastructure constructed by the project may not provide sufficient water for crop production. This would risk the success of project activities. Therefore, at implementation stage, a field level participatory study should ensure the infrastructures are located in the correct sites and that it is a technically and economically viable option.
- If there is weak management capacity to deliver the complex project components effectively, a capacity building and technical support programme should accompany any watershed and wetlands management related activities that are introduced.

Organizational and financial

- To reduce the risk that the integrated package of watershed management activities are not found to be cost effective. (i.e. cost-recovery cannot be ensured).
- The combination of the activities with adoption value should be drawn together into packages and extension provided to promote farmer adoption.
- Delays in fund flows will delay activities and could risk stakeholder cooperation. The use of performance contracting mechanisms for annual planning whilst ensuring that monitoring and reporting systems are applied to maintain fund flows.
- Ineffective project oversight may lead to an uncoordinated approach to local delivery leading to delays in deliverables. The internal audit function should ensure independent reviews report to a PSC to oversee project risk management

7.4.5 Appropriate financing mechanisms

Funding sources

The “Priority 1” projects presented for inclusion in KIWMP are in the preliminary stages of formulation. No project appraisal documents or financing agreements exist for any of them. This means that funding mechanisms can only be suggested based on methods of operation for similar watershed and wetlands management projects. It is usual for example that expenditure with relatively high proportions of foreign exchange (international staff, imported equipment, civil works etc.) is funded by donor contributions, while local staff, management and administration costs and locally purchased goods and services are funded nationally.

Some donor agencies are particularly interested in supporting NGO training operations and micro-financing institutions. It is almost universally held that users should pay for the operation and maintenance of investment through local financing mechanisms. The payment for the construction of soil and water conservation works is a more difficult issue: ideally it should be paid for by landowners, but where holdings are very small and tenure is insecure there are issues of moral hazard and community participation. Therefore it is assumed that parallel finance (i.e. funding by an unspecified donor) is directed to all civil works including soil and water conservation.

There are a number of potential financing sources for these watershed and wetland management activities; these include:

- National Government Financing.
- Bilateral Government Donor Financing.
- Multilateral development and climate change financing, including through regional coordinating bodies (Multilateral Development Banks, GEF, Adaptation Financing).
- Private sector (ecosystem service/carbon) financing.

Table 30 outlines envisaged financing sources for the KIWMP.

Table 30. KIWMP Summary Financial Plan

Component number	Project Number	Project type	Project Title	Financers, US\$ '000									Total ^{1/}		
				NBTF	NELSAP	GOV	MUNICIPALITY	LINE MINISTRY	NGO	COMMUNITY	MICRO FINANCE	PARALLEL FINANCE			
1			Management Administration and Capacity Building	28,688	1,071	4,390									34,149
2	B1	WSM	Integrated Watershed Management, Akanyaru Sub-watershed	3,512	334	21,748				642	14,275	1,258	103,640		145,410
	B2	WSM	Stabilisation of banks of Watercourses and Hillside Afforestation	2,501	48	19,008		14,838		304	5,089			26,179	67,968
	B3	WSM	Hill irrigation & rainwater harvesting in Cankuzo, Karuzi, Muyinga and Ruyigi Prov.	3,417	106	9,582		290		228	3,948	5,899	36,614		60,083
	BW1	WETLANDS	Protection of wetland ecosystems thru environmental flows	452	18	266									736
	BW2	WETLANDS	Alternative Livelihoods for Wetland Communities thru ecosystem approach	492	110	319		45		64		116			1,145
	BW3	WETLANDS	Impacts on wetlands of water harvesting & development of G-water resources	506	20	298		4							828
	R1	WSM	SWC, Improved Fodder Production and Reafforestation, Nyaguru District in Akanyaru	3,369	72	18,070		1,222		1,082	4,878			22,014	50,707
	R2	WSM	Rainwater harvesting, SSI, fruit & fodder trees, Kagitumbu sub watershed	4,327	129	23,756		2,108		1,324	5,863			25,533	63,041
	RW3	WSM	Feasibility Study for Improved Fisheries in Lake Muhazi	392		184									576
	RW1	WETLANDS	Protection of wetland ecosystems thru environmental flows	452	19	266									737
	RW2	WETLANDS	Artificial wetlands for sustainable urban drainage	493	29	390	149							88	1,149
	T1	WSM	Soil conservation in Karagwe and Ngara District	2,137	71	9,082		2,136		1,078	2,860			16,090	33,453
	T2	WSM	Feasibility Study (15 villages) Kayanga + Bunazi (new) & Kyaka (New) Townships	2,171	373	6,162				246	1,723			9,155	19,831
	T3	WSM	Protection & conservation of water sources in Muleba and Birhamulu Districts	1,954	71	6,579		1,451		1,078	1,876			10,553	23,562
	TW1	WETLANDS	Ruwakajunju, Ngoma and Rshwa Lakes Fisheries Project	1,434	72	2,299		117					173	292	4,388
	TW2	WETLANDS	Robust evidence base to inform management decision-making	2,824		1,257									4,081
	TW3	WETLANDS	Flood management in Bigomba & Burigi Valley, Ngara & Muleba Districts	2,305	226	8,404				404	412	726	8,620		21,098
U1	WSM	Land rehabilitation in Isingiro District	347	56	2,582		45		64	679	116		6,239	10,128	
U2	WSM	IWRM Project, Rakai district	1,356	70	4,723		931		64	333	116		8,312	15,903	
U3	WSM	IWRM Maziba Sub watershed	1,276	60	3,839		45		64	1,451	116		10,001	16,852	
UW1	WETLANDS	Robust evidence base to inform management decision-making	706		314									1,020	
UW2	WETLANDS	Payments for wetland environmental services	397	102	292									792	
UW3	WETLANDS	Alternative Livelihoods for Wetland Communities thru ecosystem approach	1,077	110	2,980		45		64	2,258	116	7,257		13,906	
3	KIWMP 1	WETLANDS	Strategic Wetlands Classification	5,204	1,023	1,862									8,090
	KIWMP 2	WETLANDS	Management of Transboundary RAMSAR Sites	2,606	957	1,200		11				1,265			6,039
4				5,288	2,660	1,096									9,045
Total KIWMP Costs				79,683	7,807	150,951	149	23,289	6,704	45,645	9,899	290,588		614,715	

Procurement

As much of work undertaken in this Programme is capacity building and technical assistance to the Kagera sub-basin riparian countries, a large percentage of the expenditures will be for Consultants' Services, much of which will be based in the Kagera Sub-basin. Consultant firms, Universities and other Research Institutions financed under the Programme will be selected in accordance with Bank Consultant Guidelines through a Quality and Cost-Based Selection (QCBS). The regional and technical nature of this Programme will result in the possibility that a number of tasks and activities may best be undertaken by existing state owned universities or research institutions in the Kagera Sub-basin riparian countries. The Programme thus will involve contracting research institutions, think tanks and academic institutions that are government owned in the respective countries where the services are required to be rendered.

Training, workshops, conference attendance and study tours will be carried out on the basis of approved annual programmes that will identify the general framework of training and similar activities for the year, including the nature of training/study tours/workshops, the number of participants, and cost estimates. For national training and workshops, preference will be given to consultants from the country in which the training is being organized, provided that a sufficient number of qualified individuals or firms (at least three) are available. For regional training, preference will be given to consultants from the Kagera sub-basin riparian countries.

7.4.6 Financial management arrangements of the proposed development

It is expected that disbursement accounts are given by the financier, i.e. those that will be responsible for purchasing resources to mobilise the project. Financiers are assumed to be:

1. The Nile Basin Trust Fund (NBTF)
2. NELSAP
3. Central Government
4. Line Ministries
5. Municipalities
6. NGOs
7. Local communities
8. Microfinance organisations
9. Parallel finance

Disbursement accounts have been identified as goods and services (investment costs) divided between:

1. Goods
2. Civil works
3. Research services
4. Consultancy services
5. Training services
6. Credit services
7. Other services

Disbursement accounts for operational costs have been identified as:

1. Travel, per diems and accommodation
2. Administration
3. Labour
4. Management
5. Vehicle operational costs
6. Operational costs of credit, training and out-reach
7. Operational and maintenance of civil works

The greatest share of the programme would be borne by parallel finance (47%, which would be sought amongst unspecified donors). The governments of the riparian states are expected to contribute 25%, with additional (very small) contributions required from line ministries and municipalities. Community contributions are about 7%. A relatively high share of project financing by nation states (36%) is not unexpected in WSM projects where much of the investment is at farm level or rural infrastructure and operational costs should be borne directly by beneficiaries.

8. INVESTMENT PROGRAMME PROPOSAL

8.1 Components and Projects by Priority Sub-watersheds

This Section 8 presents the proposed sub-projects by sub-watershed, as opposed to by component. Therefore it allows for a sub-watershed level assessment of the proposed investments.

8.1.1 Watershed Management Sub-programme

The total financial cost estimated for all watershed management components and sub-components is estimated to be US\$ 533 million during the period 2013-2017, or about 87% of total programme costs. The cost per each activity at the sub-watershed level are shown in Table 31.

Table 31. Total Financial Cost of the Watershed Management Programme by Activity and Sub-watershed, US\$ million

	<i>Kagitumba</i>	<i>Karagwe</i>	<i>Kagera 3</i>	<i>Mwisa 2</i>	<i>Nyabugogo</i>	<i>Akanyaru</i>	<i>Kagera 2</i>	<i>Mwisa 1</i>	<i>Kirundo</i>	<i>Ngara</i>	<i>Muyinga</i>	<i>Ruvubu 3</i>	<i>Ruvubu 1</i>	<i>Cankuzo</i>	<i>Ruvubu 2</i>	<i>Gitega</i>	<i>Kagera 4</i>
Soil and Water Conservation	61.04	3.91	3.87	4.31	0.00	75.66	0.64	0.10	0.00	3.56	0.38	1.12	10.59	0.00	10.59	10.91	24.32
Reafforestation and agroforestry	0.00	3.65	3.36	12.60	0.00	0.00	0.45	4.07	0.00	5.55	0.27	0.78	0.00	0.00	0.00	0.00	5.62
Agroforestry and animal husbandry	3.39	0.00	0.00	0.00	0.00	7.42	0.00	0.00	0.00	0.00	0.00	0.00	8.57	0.00	8.57	8.83	0.00
Irrigation Development	0.00	0.00	0.00	0.00	0.00	50.61	0.64	0.00	3.85	0.00	1.15	4.23	0.00	2.95	0.00	0.00	0.00
Rainwater harvesting	8.62	0.00	0.34	0.65	0.00	8.63	0.72	0.07	3.15	1.03	1.06	3.80	0.00	2.42	0.00	0.00	0.59
Riverbank protection	0.00	0.00	0.00	0.00	0.00	1.55	0.00	0.00	0.00	0.00	0.00	0.00	3.18	0.00	3.18	3.28	0.00
Farmer Support, Marketing and Input Su	1.59	0.00	0.27	0.51	0.00	1.35	0.63	0.06	2.84	0.82	0.94	3.39	0.00	2.18	0.00	0.00	0.47
Fisheries	0.00	1.48	1.01	1.08	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44
Planning and Coordination	0.77	0.68	0.59	1.80	0.00	0.76	0.07	0.54	0.00	0.78	0.04	0.11	0.00	0.00	0.00	0.00	0.78
Sustainable management of wetlands	0.91	0.00	0.20	0.39	0.00	0.00	1.22	0.04	6.66	0.61	2.07	7.52	0.00	5.10	0.00	0.00	0.87
Alternative livelihoods	3.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85
Rural Roads	0.00	0.00	0.37	0.71	0.00	39.59	0.21	0.08	0.00	1.12	0.13	0.36	0.00	0.00	0.00	0.00	2.31
Rural Water Supply	0.00	5.50	0.18	5.69	0.00	1.29	0.34	0.04	1.43	0.56	0.49	1.76	0.00	1.10	0.00	0.00	5.65
Rural Electrification	0.00	0.00	0.00	0.00	0.00	7.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Project Management and Administration	0.56	1.56	0.40	2.08	0.00	1.76	0.12	0.17	0.10	0.69	0.09	0.29	0.09	0.07	0.09	0.09	2.58
Total	79.89	16.77	10.60	29.83	0.58	196.12	5.04	5.17	18.02	14.72	6.63	23.37	22.43	13.82	22.43	23.11	44.48
Area	5%	5%	11%	9%	3%	9%	2%	2%	2%	3%	1%	3%	7%	1%	3%	4%	13%
Population	5%	1%	6%	3%	6%	15%	3%	1%	4%	1%	1%	3%	11%	1%	3%	5%	4%
RGDP	8%	2%	11%	3%	8%	13%	4%	0%	0%	1%	0%	1%	2%	1%	2%	0%	5%

The physical interventions proposed for the Watershed Management Programme were identified from the COSTAB tables, listed by project reference number and subcomponent and classified according to the generalised activities shown in Table 32. Since the project locations are known by sub-watershed (see the project fiches: six WSM projects are located in only one or two sub watersheds, others, for example B2 are located in several) it was possible to disaggregate these generalised activities by sub watershed.

In respect of activity distribution:

- The main foci of SWC activity are in Akanyaru (29% of total area of proposed works), Mwisu 2 (16%) and Kagitumba (18%)
- Most water storage proposed is in Ruvubu 3 (20%), Kirundo (20%), Cankuzo (15%) and Mwisu 2 (10%)
- The main areas of gravity irrigation development is located in Akanyaru
- The main areas of pumped irrigation development is located in Ruvubu 3 (31%), Kirundo (28%) and Cankuzo (22%)
- Rural road development will be concentrated in Kagitumba (28%), Akanyaru (16%), Kirundo (16%), Ruvubu 3 (18%) and Cankuzo (12%)
- The main area for potable water supply improvement is Akanyaru (12%), Kirundo (20%), Ruvubu 3 (23%) and Cankuzo (15%)
- Extension to the rural electricity supply is confined to Akanyaru
- The main areas of catchment protection works are in Ruvubu 1 (10%) Ruvubu 2 (10%), Gitega (11%) and Akanyaru (19%).

Overall, the main focus of the WSM programme will be in Akanyaru, Kagitumba, Mwisu 2, Kirundo, Ruvubu 1,2 & 3, Cankuzo, Gitega and Kagera 4.

Table 32. Physical interventions of the Watershed Management Programme by Sub-watershed

Description	units	Kagitumba	Karagwe	Kagera 3	Mwisa 2	Akanyaru	Kagera 2	Mwisa 1	Kirundo	Ngara	Muyinga	Ruvubu 3	Ruvubu 1	Cankuzo	Ruvubu 2	Gitega	Kagera 4	Total	
SWC and Soil fertility enhancement	ha	55,120	17,186	15,533	48,005	86,680	2,442	14,320	3,000	21,682	2,069	6,707	0	2,300	0	0	27,647	302,692	
Soil Fertility Enhancement only	ha	100,510	0	0	0	61,230	0	0	0	0	0	0	58,176	0	58,176	59,939	2,000	340,030	
Reafforestation	ha	11,500	7,040	6,965	14,932	25,752	1,141	3,373	0	8,763	688	1,995	14,544	0	14,544	14,985	12,702	138,925	
Riverbank protection	ha	480	0	0	0	1,440	0	0	0	0	0	0	3,234	0	3,234	3,332	898	12,618	
Water storage and supply	number	50	0	72	409	50	176	135	810	310	268	962	0	621	0	0	245	4,108	
Gravity Irrigation	ha	1,250	0	36	71	9,250	346	8	1,950	112	598	2,181	0	1,495	0	0	1,414	18,710	
Pump irrigation	ha	1,250	0	0	0	1,250	2,250	0	13,500	0	4,050	14,850	0	10,350	0	0	0	47,500	
Fish cages and ponds	number	500	7	5	5	0	0	0	0	0	0	0	0	0	0	0	0	2	520
Rural Roads	km	500	7	7	8	300	51	0	300	5	91	332	0	230	0	0	0	57	1,887
Rural Water Supply	hh	0	1,700	1,012	3,609	10,000	3,330	216	16,500	3,103	5,301	19,157	0	12,650	0	0	5,421	82,000	
Rural electrification	connections	0	0	0	0	24,263	0	0	0	0	0	0	0	0	0	0	0	0	24,263
Wood burning stoves	number	15,000	0	15	29	136,316	9	3	0	47	5	15	23,760	0	23,760	24,480	27	223,466	
Urban water supply	connections	0	3,400	0	3,300	0	0	0	0	0	0	0	0	0	0	0	3,300	10,000	
Microcredit	hh	1,000	553	985	1,579	8,000	3,598	130	19,500	1,862	6,061	22,054	0	14,950	0	0	2,228	82,500	
Crop storage	units	141	0	0	0	0	13	0	78	0	23	86	0	60	0	0	0	401	
Market information	farmers	70,500	0	0	0	0	3,250	0	19,500	0	5,850	21,450	0	14,950	0	0	0	135,500	
Alternative livelihoods	hh	2,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,000	3,000	
Courses	number	981	71	107	259	1,588	45	58	74	214	42	139	247	57	247	255	227	4,611	

8.1.2 Wetlands Management sub-programme

The location of the proposed wetland interventions has been specified by sub-watershed during project design as shown in Table 33.

Table 33. Total Financial Cost of the Wetlands Management Programme by Activity and Sub-watershed, US\$ million

Sub watershed	Wetland Activity	US\$ m
Ntungamo		5.91
	Robust evidence base to inform management decision-making	0.34
	Alternative Livelihoods for Wetland Communities thru ecosystem approach	5.57
Kagitumba		7.51
	Protection of wetland ecosystems thru environmental flows	0.73
	Robust evidence base to inform management decision-making	0.48
	Payments for wetland environmental services	0.39
	Robust evidence base to inform management decision-making	0.34
	Alternative Livelihoods for Wetland Communities thru ecosystem approach	5.57
Kagera 3		1.02
	Robust evidence base to inform management decision-making	1.02
Mwisa 2		1.02
	Robust evidence base to inform management decision-making	1.02
Mukungwa		2.02
	Management of Trans-boundary RAMSAR Sites	2.02
Kagera 1		1.15
	Artificial wetlands for sustainable urban drainage	1.15
Mwisa 1		1.02
	Robust evidence base to inform management decision-making	1.02
Ngara		1.02
	Robust evidence base to inform management decision-making	1.02
Muyinga		0.82
	Impacts on wetlands of water harvesting & development of G-water resources	0.82
Ruvubu 3		0.73
	Protection of wetland ecosystems thru environmental flows	0.73
Ruvubu 1		1.13
	Protection of wetland ecosystems thru environmental flows	1.13
Kagera 4		7.05
	Robust evidence base to inform management decision-making	0.44
	Alternative Livelihoods for Wetland Communities thru ecosystem approach	0.38

Sub watershed	Wetland Activity	US\$ m
	Robust evidence base to inform management decision-making	0.34
	Payments for wetland environmental services	0.79
	Alternative Livelihoods for Wetland Communities thru ecosystem approach	1.13
	Management of Trans-boundary RAMSAR Sites	3.98
sub-basin wide		8.09
	Strategic Wetlands Classification	8.09
Total ^{1/}		34.48

^{1/} Rounding errors may be present

8.1.3 Sub-projects by sub-watershed

Table 34 sets out the sub-projects by component and indicates which sub-watersheds the activities will take place.

Some activities and sub-projects focus on specific hot-spot issues identified in priority watersheds. Other catchment-management type of activities are expected to be applied across a wider number of the sub-watersheds – such as river bank conservation, water source protection, and soil conservation actions.

Table 34. Components and sub-projects of the Watershed and Wetlands Sub-programmes by sub-watershed

Components / Sub-watershed	Akanyaru	Cankuzo	Gitega	Kirundo	Muyinga	Ruvubu-1	Ruvubu-2	Ruvubu-3	Kagera-1	Kagera-2	Kagera-3	Kagera-4	Kagitumba	Mwogo	Nyabarongo	Nyabugogo	Karagwe	Muyinga	Mwisa-1	Mwisa-2	Ngara	Kagitumba	Ntungamo	
Watershed Management Sub-programme																								
B-01: Integrated Water Resources Management, Akanyaru	✓																							
B-02: Stabilisation of banks of watercourses and hillside afforestation to reduce erosion and siltation	✓	✓	✓	✓		✓	✓	✓	✓									✓						
B-03: Hill irrigation and rainwater harvesting				✓					✓															
R-01: SWC on terraces, Soil Improvement, Increased Fodder & Fruit Trees in Nyaruguru District, Akanyaru Sub-watershed	✓																							
R-02: Rainwater harvesting, Small-scale irrigation, Fodder & Fruit Trees, in the Kagitumba Sub-watershed												✓												
R-03: Sustainable Fishing at L. Muhazi																✓								
T-01: Soil conservation in the Karagwe and Ngara District											✓	✓					✓			✓				
T-02: Potable water supply to 15 villages & Kayanga, Bunazi & Kyaka Townships in Karagwe District											✓	✓					✓			✓				
T-03: Protection & conservation of water sources in Muleba and Biharamulo Kagera sub-basin in Tanzania.								✓	✓	✓	✓								✓	✓	✓			
U-01: Land rehabilitation in Isingiro District, Kikagate												✓												
U-02: Integrated Water Resource												✓												

Components / Sub-watershed	Akanyaru	Cankuzo	Gitega	Kirundo	Muyinga	Ruvubu-1	Ruvubu-2	Ruvubu-3	Kagera-1	Kagera-2	Kagera-3	Kagera-4	Kagitumba	Mwogo	Nyabarongo	Nyabugogo	Karagwe	Muyinga	Mwisa-1	Mwisa-2	Ngara	Kagitumba	Ntungamo	
Management (IWRM) Project, Rakai District																								
U-03: Integrated Water Resource Management Project, Maziba River watershed, Kabale District																								✓
Wetlands Management Sub-programme																								
BW-01: Protection of wetland ecosystems through environmental flows and sustainable abstractions						✓		✓																
BW-02: Alternate livelihoods for wetland communities through an ecosystem approach						✓																		
BW-03: Impacts on wetlands of water harvesting and development of groundwater resources				✓	✓					✓														
RW-01: Protection of wetland ecosystems through environmental flows and sustainable abstractions												✓												
RW-02: Artificial wetlands for sustainable urban drainage									✓															
TW-01: Flood Management in Bigomba & Burigi Valleys, Ngara & Muleba Districts											✓	✓								✓		✓		
TW-02: Robust Evidence Base for informed Wetlands Management Decision Making					✓			✓		✓	✓	✓					✓		✓	✓	✓			

Components / Sub-watershed	Akanyaru	Cankuzo	Gitega	Kirundo	Muyinga	Ruvubu-1	Ruvubu-2	Ruvubu-3	Kagera-1	Kagera-2	Kagera-3	Kagera-4	Kagitumba	Mwogo	Nyabarongo	Nyabugogo	Karagwe	Muyinga	Mwisa-1	Mwisa-2	Ngara	Kagitumba	Ntungamo	
TW-03: Feasibility Study for Fisheries in Karagwe District, + Fish Ponds																	✓							
UW-01: Robust Evidence Base for informed Wetlands Management Decision Making																							✓	
UW-02: Payments for wetland ecosystem services												✓												
UW-03 Alternate livelihoods for wetland communities through an ecosystem approach												✓												

9. IMPLEMENTATION ARRANGEMENTS

9.1 Relevant Legal and Policy Framework

It is clear from the review of the institutions involved and the current legislation in each of the Basin States (Annex E) that (integrated) watershed management does not yet take place in a coordinated fashion, either on a national or regional scale. However, all Basin States appear active with regard to environmentally sustainable development issues and the relevant national level legal and policy frameworks for environment and natural resources management are outlined in 9.1.1 to 9.1.4 below.

At all national levels, there is institutional recognition of the relationship between poverty and environment and water. However, in all cases, implementation of the policy and legal frameworks lag far behind with the resultant inevitable mismanagement of the natural resources sectors. Lack of financial resources and capacity are also major obstacles to the implementation of the policy and legal framework for sustainable management of natural resources.

The major issues causing the lag of implementation of policy and legal frameworks for watershed management are defined as follows:

Transboundary Level

- The existing institutional framework in each Basin State lacks strong river/lake basin management authorities, catchment boards or similar bodies to manage and regulate transboundary water resources. The Water Policies in the Basin States did not envisage the creation of such bodies to manage and regulate transboundary water resources issues posed by river/lake basins.
- National policies on transboundary management insufficient; there is a need to expand on the following: diversion and utilization of water resources; revision of existing accords and treaties related to international waters; protection of the environment surrounding the upstream basin; preservation of water quality for use downstream; questions on water sale; plans for data management and information communication including available decision support systems; an adequate framework of cooperation acceptable to all; cooperation principles in case of national disasters, inter-state conflicts.

National Level

- Water policies are weak in (i) compelling compliance from staff from different sectors whose operations have an impact on management of water resources, and (ii) in prioritizing water issues with other sectors, i.e. Need to balance concurrent demands (for domestic, agricultural, industrial, energy and environmental); sustainable management requires integrated decision-making taking account of the interdependence of these sector
- Competition between departments and overlapping control and regulatory responsibility; Little inter-sectoral collaboration; Better coordination required vertically and horizontally; Weak management capacity and need for staff training; Lack of coordination and competition between institutions; Lack of qualified personnel, basic financing and equipment; Lack of technical knowledge at higher levels; Training of experts, technicians and other professionals, as well as rehabilitation of data acquisition networks is required; Scattered information and data on the sector
- Confusion between management and resource exploitation roles generates 'competence conflict'

District Level and Below

- Insufficient consultation among partners in the sector
- Further the inclusion of the partners/institutions actively involved in the management of water resources in the country include NGOs (local & international), the private sector and other institutions
- Need to integrate some aspects of water and natural resource management within community initiatives and under village level administrative arrangements; where the case, communities are organized into user groups.
- Need to recognize that all interest groups including private sector organizations and NGOs will be engaged in partnership with the government at an operational level
- Currently, the private sector has only been used in contracted implementation roles

Local access to and sharing of benefits from natural resources are key issues for both poverty reduction and environmental protection. There is however very limited capacity in each of the Basin States at district, province and local levels to assume the responsibility of sustainable natural resources (watershed) management. The Local Government Reform processes entail a fairly far-reaching decentralization of planning and implementation to the Districts, Municipalities, Towns and Cities. However, at this level, in most cases, no specific provision has yet been made to stimulate a pro-active and sustainable management of natural resources.

Since the success of environmental (watershed) management depends on the involvement of local people, a situation where management of the watershed resources is primarily in the hands of policy makers, legislators and administrators, with minimal involvement of the local people at district level and below, will result in only one fact: continued degradation of the environment.

Future environmental programs (interventions) should ensure that local people benefit from such programs. In addition, they must be empowered to undertake environmental management tasks through participatory approaches at the local levels. Environmental programs should be tailored in a way that local people get immediate economic benefits by engaging themselves in conservation efforts. There is little evidence from this review that participatory approaches have been effectively implemented.

It is therefore recommended that the impetus of future local government reforms in each of the basin States should be geared towards effective devolution of powers, clarification of mandates and giving ownership and access to natural resources as pre-requisites for empowering local governments to manage the environment and natural resources. Local governments should be allowed to hire and fire their own staff, plan their conservation programs, control natural resources situated in their geographical boundaries and generate revenues from planned and sustainable utilization of natural resources in their areas.

The governments should also consider the need to involve and strengthen the participation of the private sector, NGOs and CBOs in the management of environment. The process of registration and regulation of NGOs and CBOs should also be devolved to the local level. By encouraging the formation of NGOs and CBOs, plus the participation of the private sector in conservation efforts, the role of local governments in conservation of natural resources and the environment will be achievable and highly successful.

The following Section will provide the definition of a suitable institutional set-up and arrangements for project implementation, including mechanisms to implement sub-projects nationally while maintaining a transboundary coordination/collaboration.

9.1.1 Burundi

Table 35 below provides a summary of the significant legislation, policies, and orders in Burundi relating to integrated natural resource and environmental management of watersheds and associated climate change implications.

Table 35. Summary of significant legislation, policies, and orders in Burundi

Document	Description
Environmental: General	
National Environmental Strategy (2000)	Provides for capacity building of the Ministry in charge of Environment, the improvement of intersectional coordination for better management of environment for sustainable development, the adoption of a participative approach and principles of good environmental management in the planning.
Environmental Code (Law No. 1/010 of June 30, 2000 on the Environmental Code in Burundi)	This sets the fundamental rules intended to enable the environmental management and protection against all forms of degradation so as to safeguard and promote the rational exploitation of natural resources, fight against pollution, and improve the population's living conditions in respect of the balance of ecosystems.
Poverty Reduction Strategy 2006	The vision of the strategy is medium- and long-term development of Burundi for the reduction of poverty. The PRSP's most pertinent points are the re-launching of agriculture, livestock, fisheries, and fish farming and the improvement of environment protection
National Action Plan for Adaptation (2007)	The plan identified important adaptation needs and provides relevant solutions for adaptation
National Biodiversity Strategy and Plan (NBSAP) (2000)	Gives orientations on conservation of biodiversity, sustainable use of biological resources, equitable sharing of responsibilities, and benefits in the management of biodiversity, biotechnology, education and public awareness, training and research, studies of impacts and reducing harmful effects, cooperation, and information exchange
Land Management	
National Strategy of Sustainable Land Use (2007)	Provides strategic orientations for land use to serve as a coherent framework for future instruments of planning and sector actions based on the territory
National Land Policy Letter (2008)	Identifies four government priorities: (1) amendment of land legislation and modernization of land administration services; (2) restructuring and modernization of administrative bodies responsible for land management; (3) decentralization of land administration; and (4) inventory of state lands
Land Code (2011)	Aimed at the best optimal organization and exploitation of space, the creation and development of urban areas
Water Resources and Wetlands	
National Water Policy 2009	This policy also gives strategic directions for the proper management regarding good governance in water, water-related disaster management, and integrated water management, drinking water and basic sanitation, water for socio-economic development, and the environmental resources management sector
Fisheries law	Dates from 1937, but was amended in 1957 and 1960

Document	Description
Water Code, (Décret n° 1/41 du 26 novembre 1992 portant institution et organization du domain public hydraulique	Governs the country's water resources. Burundi's water is within the public domain, and the Water Code governs rights of access to groundwater, lakes and watercourses, as well as the distribution of drinking water
Decree No. 100/072 of 21 April 1997	Delineated responsibilities for water distribution and management between the DGHER and REGIDESO
Law No. 1/014	Sets out a framework to support private sector engagement in the provision of drinking water and energy
Public Health Code: Order in Council No. 1/16 of 17 May 1982	Requires that all projects relating to water catchment have the prior authorization of the Minister in charge of health
Ramsar Convention	Ratified by Burundi in 1997
Forestry	
Forestry Code (Act No. 1/02 of 25 March 1985)	Govern the types, allocation, and use of forestry resources
Decree No. 100/188 of 5 October 1989	Decree No. 100/47 of 3 March 1980 established INECN, taking its current name in 1989
Other	
Energy Policy 2006	Currently being updated based on the Energy Strategy and Action Plan
Mining and Petroleum Act of 1976 (amended 1982) Decree Law No. 1/41 of 26 November 1992 on the	The primary law governing allocation and use of mineral resources.
Decree Law No. 1/41 of 26 November 1992	Organization of Public Hydraulics; regulations to the 1976 Mining and Petroleum Act; and Revision to the Investment Code of Burundi, 6 September 1967

9.1.2 Rwanda

Table 36 below provides a summary of the significant legislation, policies, and orders in Rwanda relating to integrated natural resource and environmental management of watersheds and associated climate change implications.

Table 36. Summary of significant legislation, policies, and orders in Rwanda

Document	Description
Environmental: General	
National Environment Policy (2003)	Stipulates the utilization of natural resources and the protection and rational management of ecosystems for sustainable and fair development
National Strategy and Action Plan for the Conservation of Biodiversity (2003)	Develops national strategies, plans or programs for the conservation and sustainable use of biological diversity; Integrates the conservation and sustainable use of biological diversity into relevant sectoral and cross-sectoral plans, programs and policies
Law No. 16/2006	Established REMA and delineated its organization, operation and responsibilities
National Policy of Decentralization (2006)	Recreated districts, sectors and cells to include environmental officers within the district organogram to help with planning and coordination of environmental activities in the districts. First time in Rwanda's history to have explicit environmental officers at subnational levels.
National Wildlife Policy (2007)	Provides for mechanisms to protect wildlife, including regulatory instruments for hunting and collection of specimens. Wildlife outside protected areas is not explicitly provided for
Land Management	
National Land Policy (2004)	Stipulates the appropriate land administration system as a key of land tenure security by providing the possibility of registering and transferring land and also the possibility of investment in land
National Agricultural Policy 2004	Contributes in a sustainable manner to poverty reduction through increased and diversified households' incomes, and to support Rwanda's economic growth while ensuring food security for the entire population
Organic Law N° 04/2005 on protection, conservation and promotion of the environment	Stipulates the modalities of protecting, safeguarding and promoting the environment
Organic Law N° 08/2005 on the use and management of land	Determines the use and management of land in Rwanda and institutes principles on land legal rights. Recognizes private ownership, both customary and legal, of most hillside areas. Previously, all land belonged to the State, making it illegal to buy and sell land and any required expropriation would result in users of land being compensated for assets lost at a fixed rate. As a result, there have been serious shortcomings in the national processes associated with land expropriation, resettlement and associated compensation payments.
Presidential Order N° 54/01 on land commissions (2006)	Determines the structure, responsibilities, functioning and composition of Land Commissions
Ministerial Order N° 01/2006 on land registers	Determines the structure of land registers, responsibilities and functioning of the District Land Bureau
Land Expropriation Law N° 18/2007	Determines the procedures relation to expropriation in the public interest
Guidelines and Procedure for Environmental Impact Assessment (EIA)	Developed to operationalize the provisions of the Organic Law to make EIA mandatory for all development projects

Document	Description
Law N° 14/2003	Stipulates quality control and commercialization of plant seeds
Water Resources and Wetlands	
National Water Resources Management Policy (1998)	Single national policy on water Management under the auspice of MINIAGRI. Does not mention new principles of water and transboundary water management. Regionally, policy only talks about 'international co-operation' (in larger river basins). Water described as an economic asset is sensitive; it is necessary to balance water for basic needs of the poor and water priced reasonably for agricultural and industrial use.
Sector-specific Environmental Impact Assessment (EIA) Guidelines (2008)	Developed to operationalize the provisions of the Organic Law for water resources and wetlands management; wastewater treatment; hydropower development; housing and roads infrastructure
National Policy on Water and Sanitation (2004)	Inventory and integrated management of water resources including watershed protection; expansion of water supply and sanitation infrastructure to increase access to potable water; water for livestock and agricultural production; water resources governance including decentralization, community participation and privatization; capacity building. Policy implementation has, however, been hampered by lack of a strong legal framework and weak institutional and human resource capacities.
Fisheries Law (2008)	Three types of fishing governed by law: fishing as a sport or leisure activity; commercial fishing, and scientific fishing, to study and advance the knowledge of fish and aquaculture resources.
Water and Wetlands Policy	Previous wetlands policy shelved pending detailed inventory and categorization of wetlands for production and protection
Forestry	
Instruction N° 01/2003	Ban of cutting trees before maturity. Requires the permit of the district mayor
Instruction N° 0001/2004	Ban of fuel wood use in making brick and tiles (not yet a formal law)
Instruction N° 001/2006	Authorizations required for cutting and transporting trees at maturity
National Forestry Policy	Established Provincial Forest Commission to promote and oversee forestry activities that meet, on a sustainable basis, the population's needs for wood and other forest products and services. The main targets are forest cover to comprise at least 30 percent of the national territory and to have at least 85 percent of farmland under agro-forestry by 2020. To replace current Forest Law, No. 47/88 of 1988
Energy	
National Energy Policy and National Energy Strategy 2008-2012	Update of the 2004 Energy Statement. Includes long term strategy with a greater focus on household requirements, renewables and gender.

9.1.3 Tanzania

Table 37 below provides a summary of the significant legislation, policies, and orders in Tanzania relating to integrated natural resource and environmental management of watersheds and associated climate change implications.

Table 37. Summary of significant legislation, policies, and orders in Tanzania

Document	Description
Environmental: General	
National Environmental Policy 1997	Provides coordination to the implementation of environmental policy and programs, promoting environmental awareness; information generation, assembly and dissemination on the environment relating to district, ward or village
National Environmental Management Act, No 19 of 1983, revised in 2004	Established NEMC. Provides a code of supporting legislation to enable effective environmental management.
Land Management	
Agricultural Policy 1996	Promotes integrated and sustainable use and management of natural resources
National Land Policy 1995, amended 1999	Promotes and ensure wise use of land, guide allocations, prevent degradation and resolve conflicts. On the issues related to environmental management
Local (District and Urban) Authorities Act, No. 7 of 1982	Local Authorities are empowered to make by-laws regarding the protection of soil, agriculture, water supplies and other natural resources. The Act contains provisions to protect human health and regulate pollution problems.)
Village Land Act, No 5 of 1999	The Act requires each village to identify and register all communal land, and obtains the approval of all members of the village for this identification and registration (Village Assembly, Section 13). A Register of Communal Land (Section 13(6)) is to be maintained by each Village Land Council, and land cannot be allocated to individuals, families, groups for private ownership (Section 12(1) a.
Land Act, No 4 of 1999	Private Group Property is given either through Granted Rights in General and Reserved Land (Land Act, Section 19) or through Customary Rights in Village Lands (Village Land Act, Section 22). Provision is also made for holding land by joint occupancy or occupancy in common (Land Act, Part XIII).
Town & Country Planning Ordinance, 1966, Cap. 378	The Ordinance was intended to establish a land-use planning scheme for designated areas. The National Land Use Planning Commission was established to advise Government on land conservation and development.
Water Resources and Wetlands	
National Water Policy 2002	Provides a comprehensive framework for sustainable development and management of the nation's water resources
National Water Sector Development Strategy (NWSDS)	Provides a coherent, holistic and integrated strategy for the Water Sector in place in order to implement the National Water Policy
Urban Water Supply Act, No. 7 of 1981	The Act gives the National Urban Water Authority powers to monitor and control surface water and groundwater pollution and specifies when such pollution is a punishable offence.
Public Health, Sewerage and Drainage Ordinance, Chapter 336.	The Ordinance prohibits the discharge of certain substances into sewers.
National Irrigation Policy	The policy ensures optimal availability of land and water resources for agricultural production and productivity to contribute effectively towards food security and poverty reduction as stipulated in the MKUKUTA.
Water Utilization (Control & Regulation) Act, No 42 of 1974 as	The Act establishes temporary standards for receiving waters, as well as effluent discharge standards

Document	Description
amended in 1981 and 1997	
Fisheries Act, No 22 of 2003	This Act repeals and replaces the Fisheries Act of 1970. It makes provisions for sustainable development, protection, conservation, aquaculture development, regulation and control of fish, fish products, aquatic flora and its products and for related matters.
National Fisheries Sector Policy and Strategy Statement, 1997	Its main objective is to promote conservation, development and sustainable management of fisheries resources for present and future generations. The strategies of the National Fisheries Policy are based on the overall objectives of the government, which aim at poverty reduction, creation of employment opportunities, increased food security, increased economic growth and sound environmental management.
Forestry	
Forestry Policy, 1998	The revised Policy continues to recognize the important role of forests in the maintenance of the environment, the provision of forestry products, and the protection of watersheds and biodiversity.
Forest Act, No 14 of 2002	It seeks to enhance the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of natural resources for the benefit of present and future generations through participatory forest management.
Other	
Natural Resources Ordinance	The Ordinance created the Natural Resources Board, which is charged with the responsibility of supervising the use and/or exploitation of natural resources.
Mining Act, No 5 of 1998 and Regulations of 1999	The Act sets out government policy on all forms of mining and is supported by various regulations covering claims, prospecting rights, mining rights and royalties. Mining license applicants are required to submit programs for environmental protection. Each industry is required to establish realistic resource recovery standards and to adhere to them. Mining plans are required to be presented before operations begin.
Energy Policy 1992, revised 2003	Ensures affordable and reliable energy supplies in the whole country; Reform the market for energy services; Enhance the development and utilization of indigenous and renewable energy sources and technologies; take into account environmental considerations for all energy activities; Increase energy education and build gender-balanced capacity in energy planning, implementation and monitoring

9.1.4 Uganda

Table 38 below provides a summary of the significant legislation, policies, and orders in Uganda relating to integrated natural resource and environmental management of watersheds and associated climate change implications.

Table 38. Summary of significant legislation, policies, and orders in Uganda

Document	Description
Environmental: General	
National Environment Management Policy 1994	Provides the foundation in which the subsequent policies, laws and strategies for sustainable development are anchored
The National Environment Statute (1995)	This provides the framework for coordinated and sound management of the environment including environmental impact assessment of water resources related projects and setting water quality and effluent standards
The National Environment	This relates to Central Government or Local Governments who shall hold in trust

Document	Description
Regulations 2000 (Wetlands, Riverbanks and Lakeshores Management).	for the people and protect wetlands, riverbanks and lakeshores for the common good of the citizens of Uganda.
Land Management	
The Land Act (1998)	Provides that the government holds lands in trust for the people and protects environmentally sensitive areas such as wetlands and any other lands reserved for ecological or tourist purposes for the common good of the citizens of Uganda
The Agriculture Sector Development Strategy and Investment Plan (DSIP): 2010/11- 2014-15	The objectives mostly focus on increasing rural incomes and livelihoods, household food and nutrition security, agricultural factor productivity, and developing markets and value chains for agricultural products, among others
Water Resources and Wetlands	
National Water Policy (NWP) 1999	Promotes the principles of integrated water resources management as a means to ensuring adopted in 1999, provides the overall policy framework for the water sector
The Water Statute (1995)	This provides the legal framework for the use, protection and management of water resources and water supply
The National Policy for the Conservation and Management of Wetland Resources (1995)	It aims to maintain the functions and values of wetlands, promoting the integration of wetlands into decision making processes and sectoral planning. Other goals include: establishing the principles under which wetlands can be optimally used and their productivity maintained in future, ending exploitive practices in wetlands and maintaining biodiversity in natural and semi-natural wetlands.
The Wetlands Sector Strategic Plan (2011)	Contains eight strategic objectives: increase knowledge about wetlands; raise awareness; construct decentralized institutions for wetland management; develop appropriate legal and policy instruments; manage wetlands sustainably, including transboundary wetlands; protect vital wetlands by functions and services; empower communities to manage resources through Community Based Wetland Management Plans; and win funding and resources at all management levels.
The National Water and Sewerage Corporation (NWSC) Statute of 1995.	This establishes the NWSC as a Water and Sewerage Authority and gives it the mandate to operate and provide water and sewerage services in areas entrusted to it on a sound commercial and viable basis
The Water Resources Regulations and Waste Water Discharge Regulations (1998).	This provides for the regulation of water abstraction and waster water discharge through the use of permits
The local Government Act (1997)	Defines roles for different levels of government in provision and management of water and sanitation related activities. The Act stipulates that provision of water and maintenance of facilities is a role of Local Governments in liaison with the Ministry responsible for Water Affairs.
Forestry	
The Forestry Policy (2001)	Covers the rehabilitation and conservation of forests that protect the soils and water in the country's key watersheds and river systems
The National Forestry And Tree Planting Act (2003)	An Act to provide for the conservation, sustainable management and development of forests for the benefit of the people of Uganda
Other	
The National Gender Policy (1999)	Recognizes women and children as the main carriers and users of water. It anchors the importance of gender responsiveness in terms of planning, implementation and management of water and sanitation initiatives
The 1997 Poverty Eradication Plan	Details the water sector as a priority instrument in fighting poverty
The Health Policy (2000)	Key priorities include support to local governments and authorities to improve sanitation and general hygiene.

Document	Description
The Energy Policy (2002)	Policy goal to meet the energy needs of Uganda's population for social and economic development in an environmentally sustainable manner.
Renewable Energy Policy (2007)	Implementable programs include: Power Generation (one for large hydropower schemes and one for small power schemes), Rural and Urban-poor electricity access, modern energy services, biofuels and energy efficiency
The Mining Act 2003	Under EIA compliance, this Act ensure the prevention and minimization of pollution of the environment

The implications of the above mentioned policies and legislation on the KIWMP sub-projects are given in detail in Annex E.

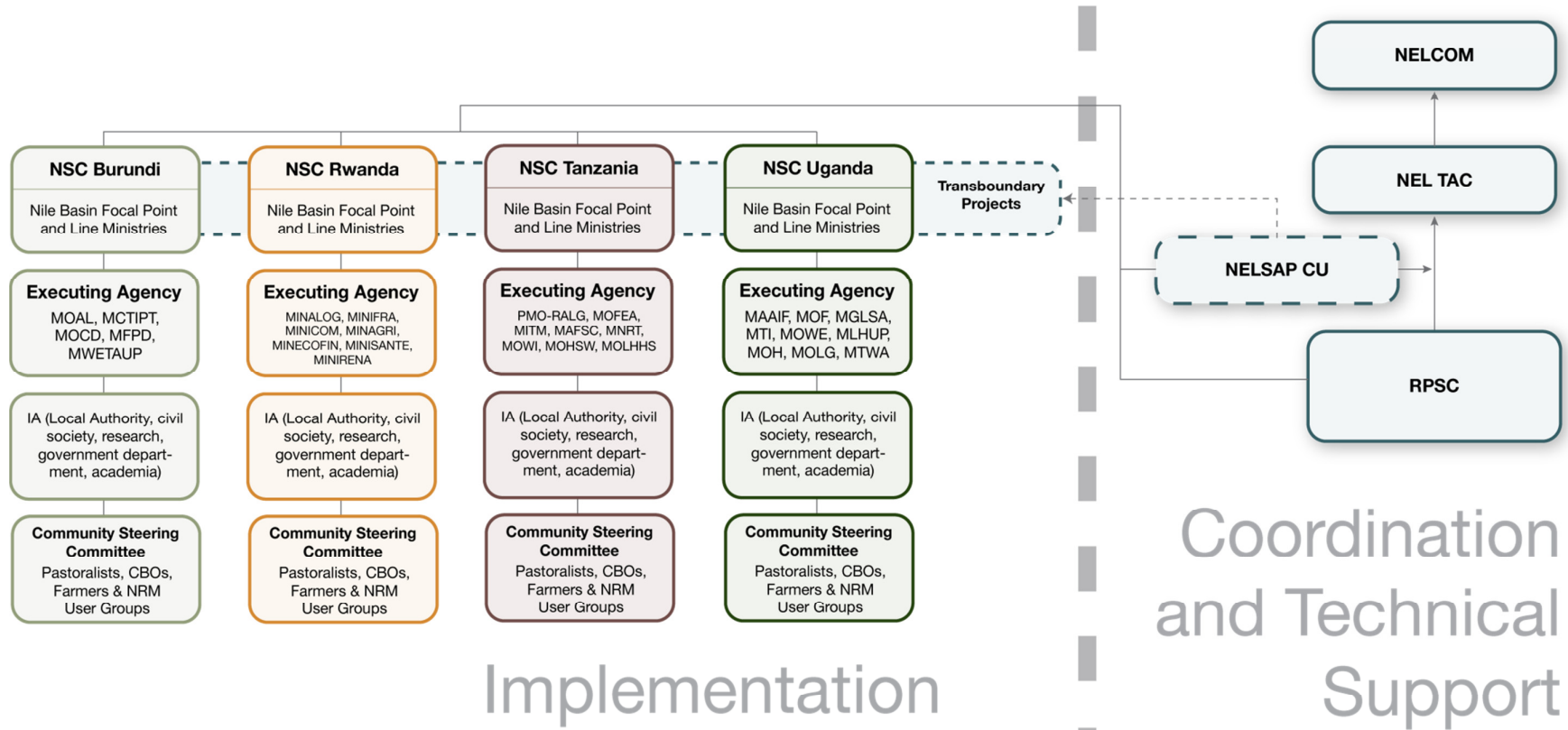
9.2 Proposed Organizational Arrangement

The basis for the identification and function of watershed and wetland sub-projects to be implemented to reduce environmental degradation in the Kagera sub-basin has taken the following issues into consideration:

- The sub-projects align with NELSAP primary objectives of poverty reduction, reversal of environmental degradation and economic development.
- The sub-projects meet the additional project selection criteria proposed by NELTAC (NELSAP, 2006): defined goals and anticipated measurable results, demonstrable benefits at a regional level, ability to be upscaled, demonstrable sustainable use of water resources, commitment to significant public consultation and stakeholder involvement, and economic and financial viability and sustainability.
- The sub-projects complement or link with existing initiatives and programs in the Kagera sub-basin in order to develop synergies and generate mutual beneficial outcomes.
- The sub-projects contribute to the information base that informs management decision and provide best practice guidelines.
- The sub-projects include awareness raising, capacity building and training initiatives - in environment generally and wetlands specifically - at all levels from national government to local community and schools.
- The sub-projects contribute to the harmonisation of national policies, laws and institutional mandates.
- The sub-projects have an appropriate strategy for dealing with ethical issues, such as the storage and use of stakeholders' personal information, and for ensuring that women and minority groups are represented and actively involved in project activities.

Based on (i) the outline for the regional institutional framework for watershed management in the Kagera sub-basin, (ii) the proposed criteria for project function, and (iii) the need to address transboundary, national, district and community level issues, a general framework for project implementation is proposed below in Figure 5.

Figure 5. Proposed Institutional arrangements for implementation of KIWMP



The roles of the different components are described below:

- **NELSAP CU/PMU** will be the overall coordinator of the KIWMP of the watershed programme. Their role will be:
 - To mobilise resources for the detailed design and implementation of the watershed/wetland programmes,
 - To constitute the Regional Steering Committee
 - Technical support to National Steering Committees
 - Capacity building across countries as provide for under the capacity building component of the KIWMP.
 - Monitoring and evaluation of the programme
 - Co-supervision of programme implementation
 - To coordinate with LVBC who have similar mandates under the EAC in order to enhance complementarity and harmonisation of activities.
 - To ensure regional coordination.
 - Donor Reporting.
 - To facilitate lesson learning across the countries.
 - Co-implementation of the transboundary projects in liaison with the in country implementing agencies.

- **Regional Project Steering Committee** will be directly responsible for:
 - Ensuring that country programmes and the subprojects are aligned to regional policies (refer to section 9.1 and Annex E)
 - Reviewing and approving all costs associated with the projects in various countries.
 - Managing and resolving political and operational issues brought to their attention by the National Steering Committees.
 - Coordination with other projects and programs with these efforts (together with NELSAP).
 - Obtaining the support and cooperation of all stakeholders in transboundary projects.
 - Developing mechanisms that will deliver the transboundary projects
 - Monitoring transboundary projects

- **National Project Steering Committee:** This will be comprised of technical ministry representatives involved in the implementation of sub-projects, NELSAP Country Focal Point, civil society representatives (e.g. Nile Basin Discourse), other implementing bodies (e.g. private sector, academia, local authorities e.t.c). They will be responsible for:
 - Ensuring that all project activities are aligned with national policy and legislation.
 - Reviewing and approving all planned national activities planned.
 - Assisting in the identification of the relevant Executing Agencies.
 - Obtaining the support and cooperation of national governmental and non-governmental stakeholders in transboundary projects.
 - Communicating status and needs to all stakeholder agencies.

- Providing information to the Regional project Steering Committee on project progress as measured against selected indicators.
 - Integrating national (and district/county) level technical issues, advice and assessments in relation to project implementation.
 - Monitoring and evaluation of in country programmes.
- **Executing Agency (EA):** This will be the government ministry through whom donors of various projects will channel their funding in country. The ministry will be in charge of:
 - Establishing a PMU which will coordinate all the country's sub-projects.
 - Selecting and contracting the implementing agencies (IAs) for the sub-projects.
 - Reviewing and approving sub-project workplans.
 - Holding regular progress meetings with the IAs.
 - Monitoring expenditure and technical outputs.
 - Ensuring stakeholder involvement from community level to national level.
 - Coordinating IAs.
 - Ensuring lesson learning across different sub-projects.
 - Procurement and leading supervision of project contractors, consultants and other service providers.
- **Implementing Agency (IA):** The IA can be a government technical department or institution, local authority, research institution or civil society (CSO) which will be contracted by the EA, to deliver various sub-projects. The local authority may be a district or county government whilst CSOs are non-governmental agencies who can also be contracted by the EA. All IAs will be responsible for:
 - Developing the project implementation plan.
 - Developing M&E systems for the sub-projects following the guidance given by the M&E framework in each sub-project fiche.
 - Developing participatory tools for community-level monitoring and evaluation.
 - In liaison with the EA contracting service providers for the sub-projects e.g. EIA specialists where the need arises, staff, etc.
 - Establishing local authority/community steering committees.
 - Sensitisation and mobilisation of communities and other beneficiaries.
 - Reporting progress to the EA on a quarterly basis.
 - Ensuring that district level policies and procedures and systematic communication measures are in place to obtain broad-based community inputs.
 - Identifying problem areas of project implementation.
 - Developing a communication strategy.
 - Communicating status and needs to all stakeholder agencies/groups using the stakeholder engagement guide (See Annex D)
- **Community Steering committee will include (CBOs, farmers, pastoralists, natural resource management user groups e.g. water user committees, watershed committees, self-help groups e.g. women/youth groups, community forest associations):** Responsibilities will include:
 - Representation of the interests of community groups in monthly progress report meetings with the IA

- Directly mobilizing resources for project implementation when required.
- Advocating the needs of marginalized communities
- Where households are involved selection of households through community based targeting.
- Involvement in the M&E of project outputs
- Giving suggestions that will enhance implementation to the IA
- Conflict management
- Capacity building and creation of awareness amongst community members
- Monitoring progress at household/community level.

9.3 Stakeholder Participation and Involvement Plan

It is expected that the KIWMP projects will receive financing from various sources and their implementation will begin with the relevant stakeholders on board. Before implementation commences relevant stakeholders will have been mobilised and will be ready to begin implementation as they will have participated in the project identification, screening and validation phases prior to implementation. Figure 6 shows all the stakeholders involved in watershed management in the basin and Table 39 describes how the various stakeholders will be involved during the implementation stage and the outcomes expected from their involvement.

TERTIARY
SECONDARY
PRIMARY

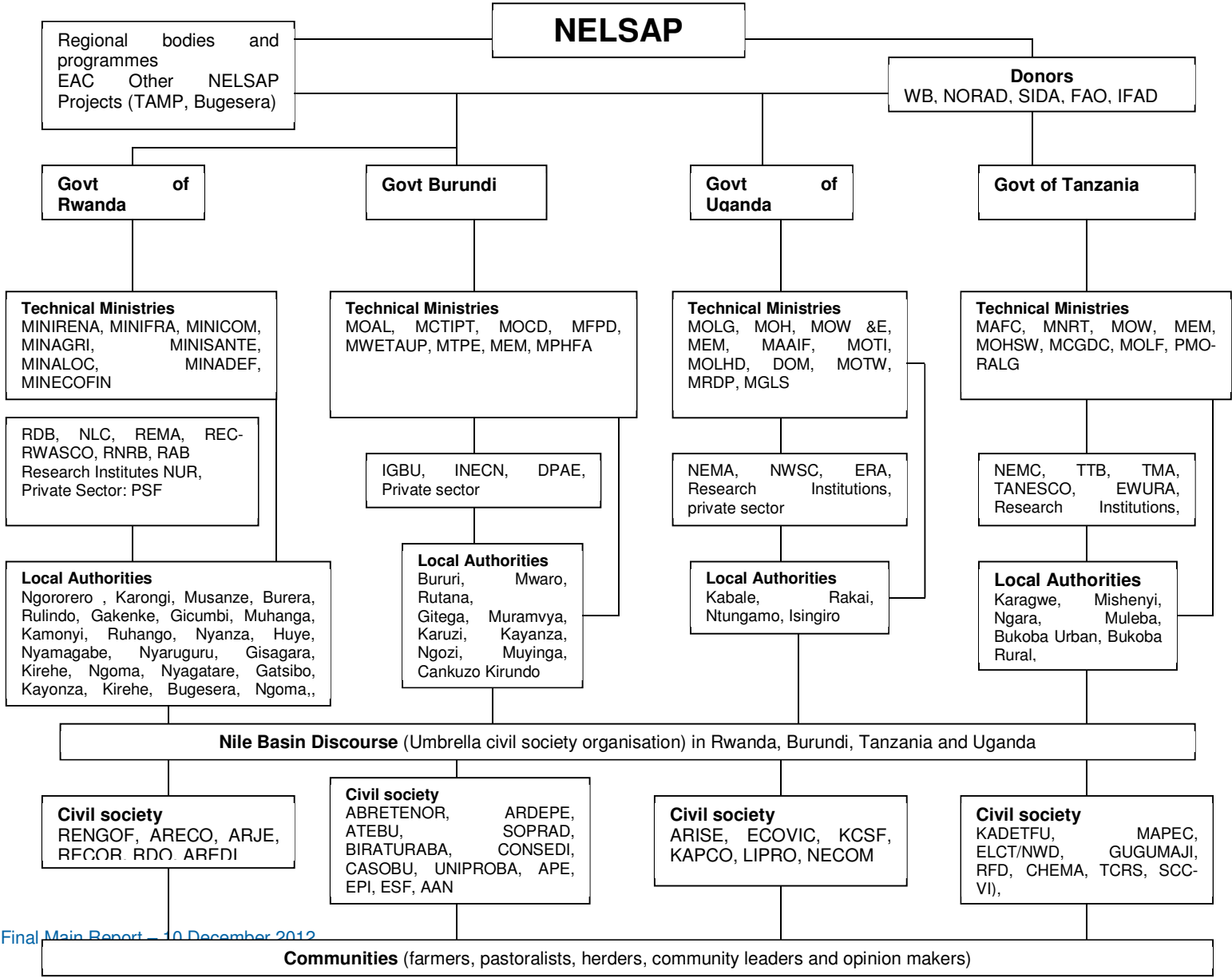


Table 39. Stakeholder engagement during the implementation stage and expected outcomes

TYPE OF STAKEHOLDER	TIMING OF INVOLVEMENT	TYPE OF PARTICIPATION REQUIRED	TOOLS FOR PARTICIPATION AND COMMUNICATION	OUTCOME OF INVOLVEMENT	COMMENTS
Communities, Community based organizations, community opinion leaders.	Sub project inception, implementation and M&E	Interactive participation, functional participation, participation for material incentives and self-mobilization and active participation active role in decision making and management of watershed and wetland projects under selected CBOs.	Community meetings, focus group discussions, Exchange visits to the other riparian countries for lesson learning for lesson learning and exchange of best practice	Resource mobilization and development of community structures for project implementation and M&E phases, ownership of sub-projects	Integration of gender, vulnerable segments of the community, conflict, HIV/AIDs and other cross cutting themes will need to be factored into project design and implementation.
Umbrella civil society organisations (Nile Basin Discourse)	Biannual basis	Participation by information giving, by consultation and interactive participation with the project team	Formal meetings and representation in Kagera project national and multi-stakeholder meetings, email, social networking.	Exchange of best practice across sub projects and countries, enhanced accountability of their members	This should be done at national, transboundary and regional levels.
Private Sector Associations including water utility companies and parastatals	Quarterly, biannual or annual meetings depending on whether they are primary, secondary stakeholders	Interactive participation	Project advisory multi-stakeholder committees, Exchange visits to the other riparian countries for lesson learning and exchange of best practice	Fulfilment of private sector objectives in economic development in the various projects they support or implement	This should be done at national, transboundary and regional levels.
Local Government	Quarterly meetings	Interactive participation, functional participation, participation for material incentives and self mobilization and active participation	Formal meetings, sub-project monitoring visits and focus group discussions with communities. Exchange visits to the other riparian countries for lesson learning and exchange of best practice	Enhanced ownership and sustainability of sub- project outcomes	Best practices in IWRM will need to be identified in the various countries so that the exchange visits are focused.
Technical Ministries	Biannual	Advisory and consensus building	Formal meetings e.g. RPSC, water sector meetings, exchange visits to the other riparian countries for lesson	Contribution towards the attainment of sector plans in IWRM due to sub project activities.	It is envisaged that the sub-projects will be part of the sectoral plans of the

TYPE OF STAKEHOLDER	TIMING OF INVOLVEMENT	TYPE OF PARTICIPATION REQUIRED	TOOLS FOR PARTICIPATION AND COMMUNICATION	OUTCOME OF INVOLVEMENT	COMMENTS
			learning and exchange of best practice		four governments.
NATIONAL GOVERNMENT AND GOVERNMENT INSTITUTIONS	Annual		Formal meetings	Contribution towards attainment of government environment and economic development goals	It is envisaged that the IWRM Investment Plan will be part of National government plans in the four countries
REGIONAL PROJECTS	Biannual	Information exchange of best practices and lessons learnt	Formal meetings lesson learning workshops	Commitment to collaboration on similar projects or activities in the Nile Basin. Contribution towards regional environment and economic development goals	It is envisaged that the IWRM Investment Plan will be in harmony with other investment plans for the region.
REGIONAL BODIES (EAC, NBI)	Annual	Information exchange of best practices and lessons learnt	Formal meetings and lesson learning workshops	Commitment to harmonization of similar activities and donor coordination in the Nile Basin. Contribution towards regional environment and economic development goals	It is envisaged that the IWRM Investment Plan will be contribute to the goals of regional bodies.
DONORS OF KAGERA PROJECT AND OTHER DEVELOPMENT PARTNERS	Annual	Information exchange and updates of sub projects	Formal meetings	Commitment to continuation of funding for sub projects within the Kagera sub-basin and the wider Nile basin as a whole	Donor funding for the Kagera sub-basin is factored into national budgets.

10. MONITORING AND EVALUATION SYSTEM

10.1 M&E Architecture

10.1.1 M&E System Outline

The KIWMP will establish a monitoring and evaluation system for the programme as a whole. Each sub-project contributes to the achievement of the overall programme objectives and as such each individual sub-project will contribute through the reporting and monitoring system.

The Monitoring and Evaluation system comprises a number of elements:

- Participatory Monitoring by Programme Clients
- Activity-level Indicator Monitoring
- Output Indicator Monitoring
- Financial Monitoring including Auditing
- Impact Indicator Monitoring

It is important to note that all elements are integrated into one system that will guide programme planning and management.

In addition, it will be necessary to check the validity of the Output-to-Outcome Assumptions in the Log Frame to ensure the intervention logic will hold and thus the planned outcome is likely to be achieved.

The information required to make such assessments will generally be undertaken by independent surveys such as the Bi-annual repeat of the Baseline Survey that covers the baseline survey Sectors with repeat visits to households to assess progress towards Outcomes.

10.1.2 M&E Strategy and Action Plan and the Tracking Matrix

With the clearly defined baseline situation, and with further detailed performance indicators, the M&E Strategy will be developed. The Strategy will outline benchmarks and timelines for achievements of the various outcomes. Attached to the M&E Strategy will be an Action Plan, which clearly spells out the steps, activities and actions which are required from various stakeholders, consultants, etc. A relatively simple overview tracking matrix will also be established to monitor performance. This tracking matrix will be updated regularly, (at least once every two months). The tracking matrix will form an important input to reporting to NELSAP, the World Bank and donors. It will also be a useful base on which to write the semi-annual and annual reports

10.1.3 M&E Reporting

The Log-frame will provide the basis of the monitoring and evaluation system. It is structured as follows:

- Outcomes
- Outputs
- Activities

A reporting system will be established, that requires monthly, semi-annual and annual reporting on project progress against agreed indicators and milestones. Evaluation level processes will be set out at baseline, mid-term and end of phase I stages:

- The Baseline assessment will set out the current situation from the evaluation perspective and should be carried out at the inception of the programme. Individual sub-project level baselines will be prepared that together will form the programme-level baseline.
- The mid-term evaluation allows for a performance-based assessment of progress against agreed milestones and a review of the effectiveness, efficiency and relevance of the sub-projects in terms of delivering on the overall programme objective, and allow for re-orientation of project components as necessary.
- The end of Phase I stage evaluation will allow for an assessment of the impact and cost-effectiveness of the sub-projects and allow for the focusing of additional sub-projects/activities required in later phases of the programme.

The Log Frame (10.3) will provide the basis for the Output Monitoring and Outcome Evaluation. During the implementation of the Programme, the following reporting will be required:

Monthly narrative report (maximum 2 pages).

- Outlining the work accomplished in the preceding month, an outline of the work expected to be completed during the coming month, and if appropriate, comments and/or recommendations relating to any unforeseen conditions which may affect the progress or the quality of the work. The responsibility for reporting is with the Watershed Management Programme Manager.

Distribution: NELCU, National Programme Coordinators, World Bank (Donor). This will be for internal use only.

Semi-Annual Programme Implementation Progress Reports

- Covering the intervals between the annual reports the e-mailed monthly narrative reports will be expanded to include a narrative summary of activities undertaken during the past six months. This should include: (a) the status of implementation progress, problems encountered and corrective actions needed; (b) the current costs of each Programme component and estimated costs for completion; and (c) the degree of achievement of Programme objectives, as measured by the status of Programme indicators. These reports will include special sections on procurement and disbursement (attaching the most recent FMR) with information on: progress of procurement activities against plans set forth in the PIP; variations in progress, reasons for variations and actions being taken to address these problems; and Programme expenditures (foreign and local costs).

Timing: First report to be submitted 6 months after Programme effectiveness.

Distribution: NELSAP, National Programme Coordinators, World Bank (Donor).

Annual Substantive Programme Progress Report

- The Programme Manager will complete an annual substantive Programme progress report, which will clearly describe and assess Programme progress against the established work plan, Programme documents, and the overall objectives of the Programme. Every effort will be made to simplify and unify reporting arrangements;

therefore, the Programme Manager will review the annual reporting requirements of the World Bank, (the Donor) and the other relevant agencies and donors and design a unified reporting format acceptable to all that meets most of the reporting requirements of the donors and agencies in one single report.

Timing: First report to be submitted 12 months after Programme signature and two months ahead of the first Annual Programme Review.

Distribution: NELSAP, World Bank and (Donor).

Substantive Work Plan

- Will be attached to the Annual Substantive Programme Progress Report and will include an updated procurement plan.

Timing: Mid-term evaluation: During third year of Programme implementation.

Distribution: NELSAP. This report may be shared with other parties upon request in accordance with established policy.

Ad hoc Reporting and Substantive Reports

- The Programme will be producing a large number of ad hoc substantive reports within the thematic areas in which it is operating. These reports will be produced at either the national or regional levels for a variety of purposes.

Distribution: As per intention of report.

Additional distribution: NELSAP, World Bank (and Donor)

Financial Reports

- **Financial Monitoring Reports.** NELSAP-CU will be responsible for submitting quarterly FMRs as well as annual budgets, Programme monitoring reports, and consolidated financial statements to the World Bank.
- **Quarterly FMR.** Procurement and disbursement information for the preceding quarter and projections for the following six months will be consolidated in the quarterly Financial Management Report (FMR). The FMRs will also include a summary of the physical progress in Programme implementation, with an explanation of variances from implementation targets.

Timing: quarterly for each fiscal year of Programme effectiveness.

Distribution: NELSAP, World Bank (and Donor).

10.1.4 Baseline Establishment

The results of the Baseline Survey conducted in the first 6 months of programme implementation will provide the basis for progress measurement.

To establish the baseline situation the project will develop component specific baseline situations along the following parameters:

- Present availability of information; documentation; environmental, social and economic data; and GIS data.

- Present availability, location and status of hydro-geological data; research results and other data on water resources.
- The baseline situation may be developed based on literature review, sampling surveys, rapid assessments or other accepted methodologies.

10.1.5 Mid-term evaluation

Resources have been set aside in accordance with standard procedure to ensure that a mid-term evaluation can be carried out. The Terms of Reference and timing of this evaluation will be determined through the Annual Review process or by correspondence. The evaluations will normally be independent and thus carried out by consultants not -previously associated with the Programme.

10.2 M&E Indicators

A set of output indicators for the overall programme as a whole are proposed below (Table 40). They are derived from sub-project level outputs and represent a set of indicators that will allow monitoring of progress towards the achievement of tangible results and towards the achievement of the programme's objectives. The Indicators are presented by component. Each individual sub-project will have its own set of output and performance level indicators that will contribute to or inform the component-level indicators.

Table 40. Indicator Framework for Programme Level M&E of KIWMP

Component	Indicator	Information/ Evidence Source	Measurement time- frame
Programme ordination Management Co- and	Country-level programme steering committees established and operating by end month 6	Minutes of inaugural and regular Country-level PSC meetings	Depends on frequency of PSC meetings, probably compiled annually
	Reporting and M&E System fully developed by end month 12 and reports received as per schedule	Sub-project baseline reports, quarterly and annual progress and financial reports. MTR and ex-post evaluation reports	Compiled Annually
	2 nd Round sub-projects identified by end month 36 and funding obtained, by end month 54	MTR Recommendations for future projects, 2 nd round sub-project PDDs.	Checked at midpoint (MTR) at month 36 and at month 54.
	KIWMP Phase 2 PDD developed by end month 48 and implementation initiated by month 60.	KIWMP Phase 2 PDD	Checked at end year 4 (month 48) and end year 5 (month 60).
	50% of the cultivated areas having moderate and high soil erosion risk within target sub-watersheds protected by physical and biological conservation measures.	Quarterly and Annual progress reporting. Field Survey Data	Progress of sub-project implementation checked quarterly and evidence compiled annually
	Soil erosion and stream	Annual sediment	Compiled annually

Component	Indicator	Information/ Evidence Source	Measurement time- frame
Integrated Watershed Management	sediment loads reduced by 20% against baseline average monthly loads in target sub-watersheds.	loading sampling studies	
	25% of households in sub-project target areas experience 25% increase in agricultural productivity due to watershed management interventions by month 36, rising to 50% increase by month 60.	Sample surveys of yields and financial returns to household farm production	Measured through sample surveys at mid-term and end of Phase I.
	Income sources diversified for 60% of participating households, leading to improved livelihoods by month 60.	Sample surveys of household productive livelihoods	Measured through sample surveys at mid-term and end of Phase I.
Community based Wetlands Management	Abstract licensing guidelines in place by month 24 and a 50% increase in the number of abstraction and discharge permits issued on the basis of hydrological assessment.	Sub-project baseline reports, quarterly and annual progress and financial reports. MTR and ex-post evaluation reports	Compiled Annually
	Sustainable and improved management (drainage works, irrigation) applied to 25% of the cultivated wetland area in targeted areas by month 36, 50% by month 60.	Quarterly and Annual progress reporting. Field Survey Data and GIS	Progress of sub-project implementation checked quarterly and evidence compiled annually
	25% increase in number of participating households using alternate (non-traditional) income-generating activities in wetlands by month 36 and a 200% increase in their household income by month 60.	Sample surveys of household productive livelihoods and income sources	Measured through sample surveys at mid-term and end of Phase I.
	Artificial wetlands established in 80% of all target sites by month 36 and a 25% reduction (from baseline levels) of untreated effluent disposed by targeted	Baseline and Annual Water Sample surveys at outflow from artificial wetland sites	Compiled Annually

Component	Indicator	Information/ Evidence Source	Measurement time- frame
Basin-wide projects	municipals and industries by month 60.		
	The adoption by Partner States of harmonised policies, legislation and regulatory frameworks for management of water resources (including wetlands) and water-dependent sectors e.g. fisheries by month 60.	Quarterly and Annual progress reporting. Transboundary policy position papers prepared by partner states Transboundary wetlands and water resources policy agreements by partner states	Compiled Annually
	Five important transboundary wetlands in the Kagera sub-basin made Ramsar sites	Quarterly and Annual progress reporting. Ramsar Sites Information Service, Ramsar Notices	Compiled Annually
	Ten wetland-related postgraduate degrees from National Universities awarded by month 60 (4 by year 36).	Quarterly and Annual progress reporting. Partner State University records	Compiled Annually
Project capacity building and policy development	Increased regional cooperation in watershed management, as evidenced through collaborative actions and agreements by month 60	Joint regional and Trans-boundary watershed management and policy analysis studies Regional and trans-boundary agreements on wetlands and watershed management	Compiled Annually
	Expanded information, knowledge base and know how on watershed management available to professionals and NGOs by month 60	Research papers, policy studies & management guidelines prepared on Kagera sub-basin wetlands and watersheds management	Compiled Annually
	Wetland and water management policies and management plans of the Kagera riparian states reflect the greater knowledge and experience in integrated watershed management by month 60	Wetland and water management policy review papers for the Riparian states. Wetland and water management plans for the Riparian states	Compiled Annually

10.3 Proposed Programme Result Framework

Table 41. Logical Framework

Programme Development Objectives	Programme Objective Indicator	Use of Project Outcome Information	
<ul style="list-style-type: none"> To improve the collaborative and integrated management of the sub-watersheds and trans-boundary wetlands of the Kagera sub-basin for the shared benefit of the four riparian states. To improve the productive livelihoods of the communities who depend upon the natural resources of the Kagera sub-basin. 	<ul style="list-style-type: none"> Mean annual sediment load in the main rivers of targeted sub-watersheds reduced by 30% Water quality levels improved in the Kagera sub-basin's main rivers 75% of households participating in improved wetland and catchment management increase their food security 	<ul style="list-style-type: none"> Provision of lessons learnt across the sub-basin and within NELSAP Information used to scale up activities across sub-basin as a whole 	
Programme Outcomes	Programme Outcome Indicator	Means of Verification	Assumptions
<ul style="list-style-type: none"> Increased and diversified farm incomes for households participating in the improved wetland and catchment management activities Improved ecosystem functioning for the wetlands and watersheds of the Kagera sub-basin 	<ul style="list-style-type: none"> 50% of participating households adopt alternate (non-traditional) income-generating activities. Doubling in farm income of households participating in the improved wetland and catchment management Soil erosion and stream sediment loads reduced by 20% against baseline average monthly loads in target sub-watersheds. Effluent pollution loading of rivers emanating from targeted municipals reduced by 40% compared to non-treated areas. 	<ul style="list-style-type: none"> Sample surveys of household productive livelihoods and income sources Quarterly and Annual progress reporting. Field Survey Data Annual sediment loading sampling studies 	<p>Governments and local authorities in the Kagera sub-basin continue to recognize the importance of the Kagera water resources and agree to collaborate on its sustainable management</p> <p>The farm level and down stream ecosystem service benefits of improved management create sufficient incentives for continued and up-scaled action</p>

Outputs	Output Indicator	Means of Verification	
<p>Output 1: Livelihoods and food security of rural households within the Kagera sub-basin enhanced</p>	<ul style="list-style-type: none"> 25% of households in sub-project target areas experience 25% increase in agricultural productivity due to watershed management interventions by m36, rising to 50% increase by m60. Income sources diversified for 60% of participating households, leading to improved livelihoods by m60. 25% increase in number of participating households using alternate (non-traditional) income-generating activities in wetlands by m36 and a 200% increase in their household income by m60. 	<ul style="list-style-type: none"> Sample surveys of household productive livelihoods and income sources Sample surveys of yields and financial returns to household farm production 	<p>Agricultural development policies do not create perverse incentives that discourage conservation practices</p> <p>Agricultural markets create sufficient returns to improved agricultural production</p> <p>Adverse climate (e.g. drought or floods) does not negatively impact on the watershed management structures during the Phase I</p>
<p>Output 2: Soil erosion controlled through the use of soil and water conservation activities in areas of high and to moderate soil erosion risk</p>	<ul style="list-style-type: none"> 25% of the cultivated areas having moderate and high soil erosion risk within target sub-watersheds protected by physical and biological conservation measures. Soil erosion and stream sediment loads reduced by 20% against baseline average monthly loads in target sub-watersheds. 	<ul style="list-style-type: none"> Quarterly and Annual progress reporting. Field Survey Data Annual Sediment loading sampling studies 	<p>Areas of high and moderate soil erosion risk are amenable to implementation of soil conservation measures</p>
<p>Output 3: Water quality and environmental flows enhanced through improved wetland management.</p>	<ul style="list-style-type: none"> Artificial wetlands established in 80% of all target sites by month 36 and a 25% reduction (from baseline levels) of untreated effluent disposed by targeted municipals and industries by m60. Sustainable and 	<ul style="list-style-type: none"> Baseline and Annual Water Sample surveys below artificial wetland sites Quarterly and Annual progress reporting. Field Survey Data 	<p>Adverse rainfall that affects wetland functioning does not occur during Phase I of the programme</p> <p>Artificial wetlands are not degraded through inappropriate use</p>

Outputs	Output Indicator	Means of Verification	
	<p>improved management (drainage works, irrigation) applied to 25% of the cultivated wetland area in targeted areas by m36, 50% by m60.</p> <ul style="list-style-type: none"> 5 important trans-boundary wetlands in the Kagera sub-basin made Ramsar sites. 	<ul style="list-style-type: none"> Ramsar Sites Information Service, Ramsar Notices 	<p>by local residents</p> <p>Trans-boundary agreement on RAMSAR management principles for significant wetlands are agreed</p>
<p>Output 4: Policies and regulations for trans-boundary watersheds and wetlands management in place</p>	<ul style="list-style-type: none"> Water abstraction licensing guidelines in place by month 24 and a 50% increase in the number of abstraction and discharge permits issued on the basis of hydrological assessment. Increased regional cooperation in watershed management, as evidenced through collaborative actions and agreements by m60 The adoption by Partner States of three harmonised policies, and at least one legislative and regulatory framework for the management of water resources (including wetlands) and water-dependent sectors e.g. fisheries by m60. 	<ul style="list-style-type: none"> Sub-project baseline reports, quarterly and annual progress and financial reports. MTR and ex-post evaluation reports Regional and trans-boundary agreements on wetlands and watershed management Regional and trans-boundary policy statements on wetlands and watershed management 	<p>Regulatory authorities in the riparian states have the systems for effective implementation and monitoring of the abstraction licensing systems</p> <p>There is political will in riparian states to collaborate actors borders in managing the Kagera sub-basin</p>
<p>Output 5: Capacity for more effective regional cooperation on trans-boundary wetlands and catchment management enhanced.</p>	<ul style="list-style-type: none"> Wetland and water management policies and management plans of the Kagera riparian states reflect the greater knowledge and experience in integrated watershed management by m60 10 wetland-related postgraduate degrees from National Universities awarded by m60 (4 	<ul style="list-style-type: none"> Joint regional and Trans-boundary watershed management and policy analysis studies Research papers, policy studies & management guidelines prepared on Kagera sub-basin wetlands and watersheds management 	<p>Expertise developed in the region is retained for supporting improved management of the Kagera sub-basin</p>

Outputs	Output Indicator	Means of Verification	
	by year 36). <ul style="list-style-type: none"> Expanded information, knowledge base and know how on watershed management available to professionals and NGOs by m60 	<ul style="list-style-type: none"> Wetland and water management policy review papers for the Riparian states. Wetland and water management plans for the Riparian states 	

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