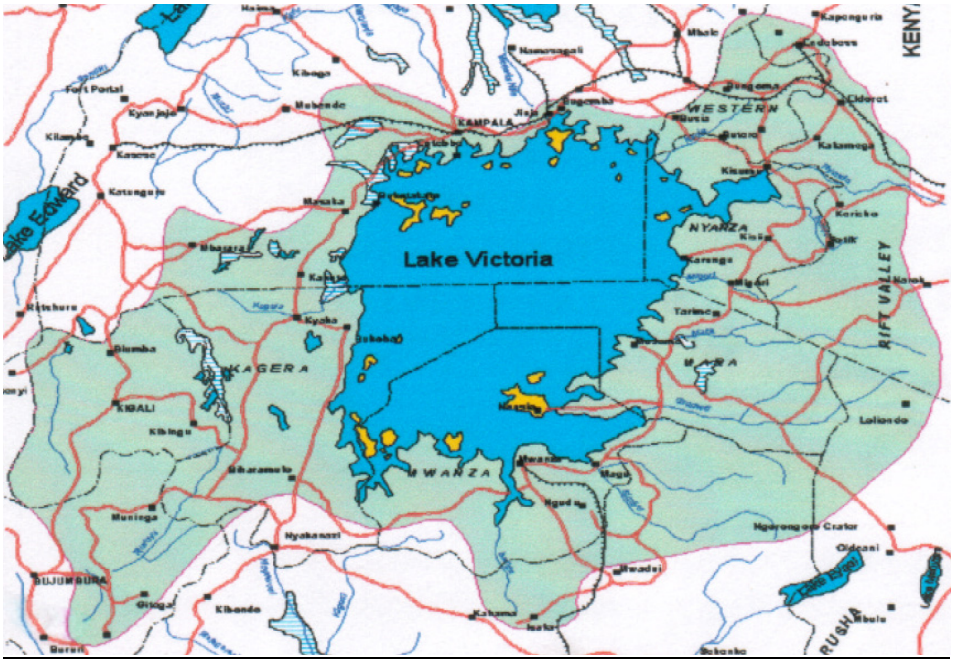
EAST AFRICAN COMMUNITY

LAKE VICTORIA BASIN COMMISSION



Strategic Action Plan (SAP)

for the Lake Victoria Basin

March 2007

EAST AFRICAN COMMUNITY

STRATEGIC ACTION PLAN
FOR THE LAKE VICTORIA BASIN

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PREFACE

This Strategic Action Plan (SAP) for the Lake Victoria Basin builds on the results of the National and Regional Transboundary Diagnostic Analyses (TDAs) carried out in the Basin in 2006. The TDAs identified key national and transboundary issues along with their underlying and root causes, within the context of the Vision and Strategy of the Basin. The SAP was designed to assist stakeholders across the Lake Victoria Basin (Uganda, Kenya, Tanzania, Burundi and Rwanda) to analyse and prioritize the key transboundary issues, interventions, goals, targets and strategies. The focus has been on developing broad consensus on realistic, achievable strategies and interventions for sustainable management of the Lake Basin in a define time frame of either short, medium or long term in order to develop mechanisms that will enable stakeholders to monitor the progress of the implementation process towards achieving the targets and goals set in the SAP.

There are six chapters and seven annexes in this report. The results of participatory processes in Uganda, Kenya, Tanzania, Burundi and Rwanda are presented in the SAP report, starting with the TDAs, feeding into the SAP. The TDAs, along with other relevant initiatives, form the baseline of the SAP. The SAP itself is a document intended for action and decision-making.

The contributors to this report feel privileged to have participated in this process and interacted with the great number of stakeholders in the riparian countries and at regional level, as well as in assisting them in defining the various elements of the SAP- for tomorrow and prosperous generations to come.

Under the general supervision of the Lake Victoria Basin Commission, and appointed by the East African Community Secretariat, Sweco Grøner, has been responsible for the outline and final editing of the SAP after intensive consultations with national and regional stakeholders. Several interactive discussions and revisions of previous drafts have taken place with the stakeholders. The national processes have continued to be coordinated by the Focal Point Ministries, in each country, through the appointed Focal Point Officer.

We firmly believe that the SAP has a great potential to positively influence the future of the Lake Victoria Basin for today and generations to come, and their reliance of its vast resources

ACKNOWLEDGEMENTS

The SAP for Lake Victoria Basin is a result of a participatory approach by stakeholders in the Basin. The stakeholders fully participated in the process leading to this SAP at both national and regional level. Many of these stakeholders, earnestly, gave their time to contribute at both the national and regional level.

The lake Victoria Basin Commission would like to express sincere gratitude to all contributors to this process including regional technical reviewers, focal point officers, National project coordinators, a manifold of stakeholders and consultants.

The production of this SAP would not have been possible without the rigorous review processes by the Task Force Team of Regional Technical Reviewers and the Regional Task Force Team that was tasked with the overall conceptualization, formatting, writing, design, production monitoring and editing of this report.

Global Environmental Facility (GEF), through the World Bank (WB), provided very important financial contribution for the SAP process.

The Lake Victoria Basin Commission, sincerely, acknowledges all the support and encouragement received throughout this process.

LIST OF ACRONYMS AND ABBREVIATIONS

ACTS	- African Center for Technology Studies
AFDB	- African Development Bank
BMU	- Beach Management Units
BOD	- Biological Oxygen Demand
CIDA	- Canadian International Development Agency
CSO	- Civil Society Organisation
CLVDP	- Committee on Lake Victoria Development Program
DFDI	- Department for International Development (UK)
EAC	- East African Community
EcoQO	- Ecological Quality Objective
ECOVIC	- Ecological Concern Over Lake Victoria
EU	- European Union
FIRRI	- Fisheries Resources Research Institute (Uganda)
GEF	- Global Environmental Facility
ICRAF	- The World Agroforestry Centre
IUCEA	- Inter University Council of East Africa
IUCN	- International Union for the Conservation of Nature and Natural Resources
KARI	- Kenya Agricultural Research Institute
KEFRI	- Kenya Forestry Research Institute
KEMFRI	- Kenya Marine and Fisheries Research Institute
KEMRI	- Kenya Medical Research Institute
KIWASCO	- Kisumu Water Services Company
KTI	- Key Transboundary Issue
LANESCO	- Lake Nyanza Environmental and Sanitation Organization
LV	- Lake Victoria
LVB	- Lake Victoria Basin
LVBC	- Lake Victoria Basin Commission
LBDA	- Lake Basin Development Authority
LVEMP-1	- Lake Victoria Environmental Management Project Phase One
LVEMP-2	- Lake Victoria Environmental Management Project Phase Two
LVFO	- Lake Victoria Fisheries Organization
LVRLAC	- Umbrella organisation for Local Authorities Around Lake Victoria
LVSWSB	- Lake Victoria South Services Board
LVVSF	- Lake Victoria Vision and Strategy Framework for Management and Development of the Lake Victoria Basin
MA	- Millennium Ecosystem Assessment
MoU	- Memorandum of Understanding
NBI	- Nile Basin Initiative
NELSAP	- Nile Equatorial Lakes Subsidiary Action Programme
NEMA	- National Environment Management Authority
NEMC	- National Environment Management Council
NGO	- Non-Governmental Organization
Nile-COM	- Council of Ministers of Water Affairs of the Nile Basin States
Nile-SEC	- Nile Basin Initiative Secretariat
Nile-TAC	- Nile Technical Advisory
NORAD	- Norwegian Agency for Development Cooperation
NTDA	- National Transboundary Diagnostic Analysis
NTEAP	- Nile Transboundary Environmental Action Project
NTF	- National Task Force
OSIENALA	- “Friends of Lake Victoria”
RCU	- Regional Coordination Unit

RDE	- Resource Defined Ecosystem
RPSC	- Regional Policy and Steering Committee
RTDA	- Regional Transboundary Diagnostic Analysis
RTF	- Regional Task Force
REMA	- Rwanda Environment Management Authority
SAP	- Strategic Action Plan
SIDA	- Swedish International Development Agency
TAFIRI	- Tanzania Fisheries Research Institute
TB	- Transboundary
TDA	- Transboundary Diagnostic Analysis
TOR	- Terms of Reference
UCLAS	- University College of Lands and Architectural Studies, Dar es Salaam
UNDP	- United Nations Development Programme
UNEP	- United Nations Environmental Programme
USD	- United States Dollar
VicRes	- Lake Victoria Research Programme
WB	- World Bank
WWF	- World Wildlife Fund for Nature

EXECUTIVE SUMMARY

This Strategic Action Plan (SAP) report for the Lake Victoria Basin (LVB) covers Burundi, Kenya, Rwanda, Tanzania and Uganda. It was commissioned by the EAC Secretariat as part of the preparation for the LVEMP II project. A Regional Transboundary Diagnostic Analysis (RTDA) for Lake Victoria Basin, conducted in 2006, was used to identify Key Transboundary Issues (KTIs) and their causes. The TDAs provided the core baseline information in the SAP for defining goals, targets, strategies and interventions for the KTIs.

Core, in the SAP, has been the prioritisation of the KTIs, which was based on the joint appraisal of the problems and opportunities presented by biodiversity conservation and the sustainable management of Lake and LVB resources, within a regional framework. This prioritisation guides national interventions, within the context of the accepted Regional Programme.

This SAP addresses a shared regional concern, defines a regional framework for a Programme of Action, and includes some immediate regional actions to address constraints for conserving natural resources and achieving sustainable use of Basin resources. The SAP process went through a consultative that was driven by stakeholders.

This SAP identifies five Thematic Areas for intervention of specific critical issues, which are: Ecosystems, Natural Resources and Environment; Production and Income Generation; Living Conditions and Quality of Life; Population and Demography; and Governance, Institutions and Policies.

The stakeholders had identified 18 KTIs which were subjected to a further prioritisation to come up with the following ranked KTIs: Land, wetland and forest degradation; Governance, policy and institutional weakness; Fisheries, habitats and biodiversity; Pollution, eutrophication and atmospheric deposition of the Lake from domestic and industrial activities; and Water balance, water use management and climate change.

The interventions were categorised with a view to clearly show, the timeframe (Short, Medium and Long Term); Responsibility (National and Regional); Type/Category of intervention (Awareness, Economic Incentive, Governance and Investment); Categorized cost of intervention (Low, Medium and High). Financing sources and mobilization arrangements have also been outlined. Those interventions eligible to GEF funding have been highlighted in the report.

It is our sincere belief that the action(s) identified for implementation, in this SAP, will lead to the transformation of Lake Victoria Basin into a formidable economic growth zone in Africa and the world at large.

1. BACKGROUND AND INTRODUCTION

1.1 Overview over Lake Victoria Basin

The Lake Victoria Basin (LVB) has a size of 194 000 km^2, with the Lake surface covering an area of 68,800 km^2 (Fig. 1). The Basin area is shared between riparian states of Tanzania (44 %), Kenya (22 %), Uganda (16 %), Burundi (7 %) and Rwanda (11 %). The Lake itself is shared between Kenya (6 %), Tanzania (51 %) and Uganda (43 %). The Lake Victoria Basin holds world leading status for freshwater Lake size, elaboration of vertebrate species diversity, species extinctions, exotic species invasions, and freshwater fishery production. The Lake is high in elevation, mostly enclosed by highlands and mountain ranges at the centre of the tropics. LVB has been persistently erratic in evolutionary timescale, varying in size and ecosystem structure (Lillehammer *et al*., 2005), and has recently displayed a massive ecosystem change in a relatively short (three decade) period (Kaufman1992; Goldschmidt *et al*., 1993; Goldschmidt 1996; Verschuren *et al*., 2002). The changes have been induced by natural factors coupled with human activities mainly associated with increasing population, economic growth and governance.

Figure 1.1. The sharing of LVB between the 5 countries (from WB 2006)

The LVB is endowed with natural resources, including: freshwater, fish and other biological resources, which provide unique opportunities for socio-economic development. Despite the various services/functions LVB provides, the Lake and other ecosystems are experiencing threats that are negatively impacting the socio-economic development and the natural resource base.

The EAC has, since its revival, supported protocols, treaties, programs and projects for Partner States. Although specific visions accompanied these initiatives, no comprehensive, overall and agreed vision for sustainable development of the Lake Basin resources was in place. The LVEMP Regional Policy Steering Committee in May 2001 proposed to the EAC secretariat the need for a vision and strategy development for Lake Victoria Basin. This was later approved and mandated by the Committee on Lake Victoria Development Program (CLVDP). This led to a project entitled "The Vision and Strategy Framework for Management and Development of Lake Victoria Basin" being launched in recognition of the need to create harmony and reduce conflict over management of the Lake Basin resources, and to eliminate future duplication and overlaps between various programs/projects. Through a consultative process, spearheaded by National Task Forces (NTFs) and a Regional Task Force (RTF), a regional Shared Vision was developed; namely:

"**A prosperous population living in a healthy and sustainable managed environment providing equitable opportunities and benefits**".

This vision formed the first concrete step towards the need to harmonize and reduce conflict over natural resources in the Lake Basin, and to eliminate future duplication and overlaps between programs/projects.

Figure. 1.2. Satellite imagery of the great Lake Victoria –the yellow line is Basin boundary

1.2 The Strategic Action Plan (SAP)

Building on the Thematic Areas identified in the Shared Vision Project, NTDAs/RTDA and consultations, the stakeholders developed a Strategic Action Plan (SAP) for integrated management and sustainable development of LVB. The process built on linkages and overlaps between the NTDAs, the RTDA and the SAP (Fig. 1.3).

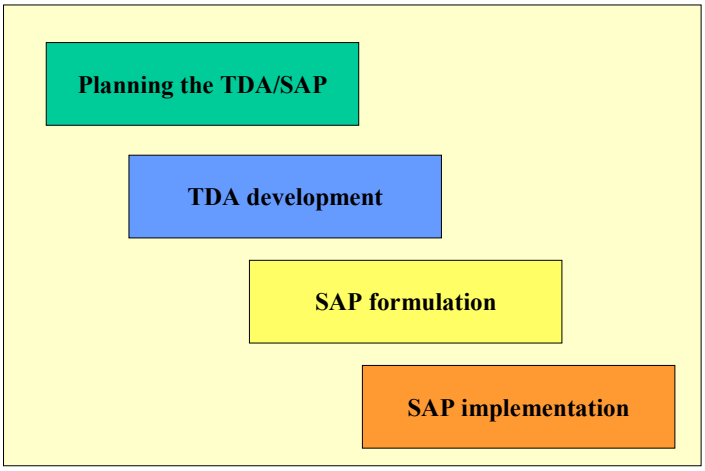

Figure. 1.3. TDA-SAP project and implementation (GEF 2005)

1.2.1 The Purpose of the Strategic Action Plan (SAP)

This document provides a regional framework for a prioritised set of national and regional actions to achieve the objective agreed by the participating countries. The SAP is a response to the need for planning and implementing complex integrated natural resource and social development programmes that affect multiple sectors, with which, in many cases, have impacts that extend across national boundaries. GEF describes the purpose of the SAP as follows:

"The SAP should establish clear priorities that are endorsed at the highest levels of government and widely disseminated. Priority transboundary concerns should be identified, as well as sectoral interventions (policy changes, programme development, regulatory reform, capacity-building investments, and so on) needed to resolve the transboundary problems as well as regional and national institutional mechanisms for implementing elements of the SAP."

Fundamental to the SAP process is the recognition that preparation of management plans has to be continuously revised in response to changes in the environment and development. Revision of the SAP will be a regular process, and while minor changes can be expected every year, a major review may be necessary every five years. Future iterations of the SAP and the detailed development of the proposed interventions will continue to expand to involve an ever-broader participation of stakeholder communities. The SAP is, therefore, a living and a dynamic document. Future developments of the SAP will be the responsibility of the Lake Victoria Basin Commission. This SAP, therefore, establishes an agreed planning and management process and prioritises for an initial programme of interventions based on present needs and knowledge.

1.2.2 Objectives of the Strategic Action Plan

The objectives of the SAP are to:

(i) Develop an agreed action plan and timetable of activities on the protection, conservation and use of water resources and ecosystems,

(ii) Develop an agreed program for addressing priority transboundary issues and focus on long term solutions to emerging problems and/or challenges facing the Basin as identified in the TDA process,

(iii) Discern the priority transboundary issues identified in the TDA and match them with proposed sectoral interventions (policy changes, regulatory reform, investments requirements, capacity building, public awareness development and stakeholder participation, and,

(iv) Recommend action(s) on transboundary issues in the Basin and to propose a multi-country institutional framework needed in implementing and monitoring regional actions.

1.2.3 The Need for Prioritisation

Throughout the region there is increasing pressure on the basin resources. This results from the increased demand against limited supply of environmental goods and services in the basin. As a result, it is necessary to establish priorities to direct limited resources (financial, material or human), to address the most critical problems and thus make best use of the available resources.

The prioritisation used in this SAP is based on the joint appraisal of the problems and opportunities for sustainable management of Lake Basin resources, including its biodiversity, within a regional framework. This prioritisation then will guide national interventions, within the context of the accepted Regional SAP.

1.3 National Actions within a Regional Framework

The SAP addresses a shared regional concern, defines a regional framework for a Programme of action, and includes some immediate regional actions to address constraints for conserving natural resources and achieving sustainable use of Basin resources. LVBC is the management body, with the responsibility for promoting and coordinating the implementation of priority activities that the participating countries have defined in the SAP.

Since the problems and opportunities that this SAP addresses are related to activities carried out within the national waters or national territories of the participating countries, the actual implementation of these actions will be a national responsibility as accepted during the preparation and subsequent endorsement of the SAP. While the majority of actions are defined to the national level, they provide regional and global benefits, over and above the national benefits of promoting sustainable development. They therefore include the incremental costs of regional and global benefits of sustainable development and biodiversity conservation and as such are also of interest and a priority for multilateral and bilateral and other forms of support.

1.4 Cooperation in Environmental Management

The five Riparian States share a common desire for the sustainable management of the natural resources and biodiversity of the Basin for the benefit of present and future generations, and recognize their role and responsibility in conserving the global value of the natural resources. They have, thus, considered and taken into account, where appropriate, the following principles and values when developing this document.

I. *Sustainable development*: The activities implemented, and decisions made, shall ensure prudent support and rational utilization of living resources and the preservation of the rights of future generations to a viable environment.

II. *The precautionary principle:* Measures shall be taken when there are reasonable grounds for concern that any activity may increase the potential hazards to human health, harm to living resources or aquatic and terrestrial ecosystems, damage amenities, or interfere with other legitimate uses of the LVB, even when there is no conclusive evidence of a causal relationship between the activity and the effects; and

by virtue of which, greater caution is required when information, including scientific information, is uncertain, unreliable or inadequate.

III. *The polluter pays principle*: The cost of preventing and eliminating pollution, including clean-up costs, shall be paid by the polluter.

IV. *Anticipatory action*: Contingency planning, environmental impact assessment and strategic impact assessment (involving the assessment of the environmental and social consequences of governmental policies, programmes and plans) shall be undertaken for the future development of the LVB.

V. *The preventive action*: Timely action shall be taken to alert the responsible and relevant authorities of likely impacts and to address the actual or potential causes of adverse impacts on the environment before they occur. Many adverse impacts are irreversible or, if they can be reversed, the cost of remedial action is higher than the costs associated with prevention.

VI. *Environmental and health considerations*: All relevant policies and sectoral plans and programmes, including, inter alia, urban planning, industrial development, fisheries, aquaculture and tourism shall take into consideration environmental and health considerations.

VII. *Clean technology*: Clean technology should be promoted when replacing or phasing-out high waste and waste-generating activities.

VIII. *Integrated approach*: Development and environmental planning and processes should be integrated to the maximum extent. The use of economic instruments that foster sustainable development shall be promoted through, inter alia, the implementation of economic incentives for introducing environmentally friendly technologies, activities and practices; the phasing-out of subsidies which encourage the continuation of non-environmentally sound technologies, activities and practices; and the introduction of user fees.

IX. *Accessibility of information*: Information on the pollution of the environment in the Basin as well as on the best practices and lessons from the Riparian States shall be provided.

X. *Public participation* and transparency: All stakeholders, including communities, individuals and concerned organizations shall be given the opportunity to participate, at the appropriate level, in decision-making and management processes that affect the LVB. This includes providing access to information concerning the environment that is held by public authorities and effective access to judicial and administrative proceedings to enable all stakeholders to exercise their rights and obligations effectively. Public authorities shall widely disseminate information on the work proposed and undertaken to protect and rehabilitate the LVB.

1.5 Resource Endowment

The Lake Basin is endowed with different natural resources, key among them include:

1.5.1 Lake Victoria

Lake Victoria is Africas largest inland water fishery sanctuary hosting more than 300 endemic fish species (NBI, 2001). The fishery resources from the Lake are, directly or indirectly, a source of livelihood to 3 million people engaged in subsistence, artisanal and commercial fishing. The Lake also provides water for domestic, agricultural and industrial use and it serves as a climate modulator.

The Lake supports generation of power at the Owen Falls Dam, and serves as a natural storage for the White Nile. Although most (82 %) of the water entering the Lake comes from precipitation, and a lesser part from stream flow and Basin runoff (Bootsma, Hecky 1993; COWI 2002), the importance of the Lakes tributaries cannot be understated. Water input is balanced by a large rate of evaporation and a relatively small discharge (mean annual discharge 1046 m^3s^{-1}) to the White Nile.

The large size of the Lake makes it vital for weather and climate modulation in the region. The seasonal wind patterns influence the hydrological process in the region. The convergence of winds over the lake, twice a year, for instance, accounts for heavy rainfall amounts in the western and northern shores of the LVB (RTDA, 2006: LVEMP, 2002).

1.5.2 Wetlands

Wetlands that fringe the shores of Lake Victoria and its river systems (RTDA, 2006), are among the most productive ecosystems in the Basin. They include a variety of swamps, marshes and seasonally inundated habitats, which are a home to various plants (e.g. sedges, *Cyperus* spp, date palm and grasses) and animals (e.g. hippopotamus, sitatunga, crocodiles and snakes). The greatest concentration of wetlands is in Uganda, which has the highest diversity of aquatic and semi-aquatic plants (NBI, 2001).

The wetlands also act as buffer for the water systems by removing pollutants, nutrients and sediment entering from rivers feeding into the Lake, and from near-shore overland runoffs. They also act as a water regulator by sustaining water supply during the dry season. The water that moves slowly through wetlands is received downstream much later in the season, maintaining the flow of rivers and the water in the Lake.

Wetlands also produce raw materials for crafts and construction, e.g. papyrus, clay and Phoenix palm. Approximately USD 35.9 million is derived from wetland products in Uganda, annually. Further, they directly support local people around Lake Victoria by providing land for crop production, dry weather grazing and year round groundwater supply. The Lakeshore wetlands also harbour large numbers of birds, fish, and other easily seen wildlife valued by tourists, and act as refuges for other fishes.

1.5.3 Fisheries

The Lake and associated ecosystems harbour different fish species, including Nile perch and endemic herbivorous tilapiine cichlids. Fish resources are very important as a source of subsistence, employment, food and foreign exchange earnings with an annual landed value of USD 300-400 million (Abila & Jansen, 1997). Fish catching and processing for export, as well as for the supply of local markets, are, next to agriculture, one of the most significant economic activities in the Lake Basin. The fisheries sector employs over 500,000 people, directly or indirectly, and the total landings from the three riparian countries are more than 500,000 tonnes per year. The commercial fisheries industry is totally dependant on the European export market for processed fish products.

Lake Victoria attracts worldwide conservation attention mainly because of the disappearance of 200 to 250 cichlid fish species associated with the introduction of the Nile perch in the 1950s. The World Conservation Union (IUCN) has listed hundreds of species endemic to the lake as endangered. Some environmental changes that contribute (d) to the decline include: increased nutrient inputs, climate change and over-fishing.

1.5.4 Terrestrial biodiversity

The Basin contains a wide range of terrestrial ecosystems – rangelands, forest and agricultural land. In some catchment areas, such as Mt. Elgon and Mau, native forests still remain in some isolated patches. Lowland forests, for example Mabira and Kakamega, support unique bird and tree species (NBI, 2001). Both Mt. Elgon and Kakamega forests are renowned for their large number of endemic afro-alpine and equatorial species, respectively.

The savannas cover a large part of the Basin in Kenya and Tanzania, and have high numbers of indigenous plants and animals, including the world's highest concentration of large mammals. Both highland and lowland ecosystems support large number of avifauna. These include resident and migratory birds, the latter using the habitats as a major stepping-stone for the north-south migration.

Rangelands are important ecosystems for food production and wildlife management. For example, amongst small-scale farmers in Mwanza and Kagera regions in Tanzania, Masailand in Kenya and Tanzania, either practice pastoralism or agro-pastoralism. Although land use practices have largely been influenced by culture and seasonality of water, emerging trends reflect the influence of introduced technologies. This has lead to threats to the recovery mechanisms of the ecosystems (resilience), and subsequently species diversity and abundance.

The farmlands scattered in the Basin are endowed with fertile soils and adequate rainfall. They are homes to a variety of wild and domestic plants species. More than 80 % of the population in the Lake Basin is engaged in agricultural production (Odada *et al.,* 2004).

1.6 Threats to Ecosystem Services and Functions

The different environmental and natural resources in the LVB are subject to a series of threats and stresses with significant consequences on the services and functions they provide. The RTDA and other relevant documents (e.g. NBI, 2001) have shown that agriculture and grazing lands are being degraded, water quality is declining, wetlands and forests are being lost, over exploiting is on an increasing trend, pollution from point and non-point sources is increasing and negative impacts of floods and droughts is intensifying. Overall, these threats represent a barrier to achievement of sustainable development in the LVB. Table 2.1 is a summary of the key threats and causes in the LVB.

Table 2.1. Summary of environmental threats in the LVB.

Location and root causes Basin-wide	
Basin-wide causes	Lack/ineffective/uncoordinated policies, poor governance, institutional and capacity constraints, inadequate awareness, limited access to relevant information, lack of involvement of stakeholders
Priority environmental threats by country	
Burundi	Deforestation, soil erosion, degradation of rivers banks, mining and wildlife hunting
Kenya	Water pollution, deforestation, soil erosion, sedimentation, loss of wetlands, eutrophication and water hyacinth
Rwanda	Deforestation, soil erosion, degradation of river banks, overgrazing, wildlife hunting and desertification
Uganda	Water pollution, deforestation, Wetland draining, encroachment of shorelines, declining water level
Tanzania	Deforestation, soil degradation, water pollution, desertification, declining water level, poaching and shortage of potable water

The above threats are discussed below under the following categories: (i) wetland, (ii) aquatic and (iii) terrestrial systems – which interact and sometimes overlap. Focus is also on identified core issues.

1.6.1 Threats to Wetland Ecosystems

Pressure on shoreline and river bank wetlands take various forms. These include land reclamation for settlements, road construction, draining for agriculture, waste dumping, land runoff pollution, excavation of sand and clay, papyrus extraction, brick making and hunting for subsistence.

The Lake Victoria Basin shore and river wetlands receive large quantities of raw or partially treated sewage and industrial effluent from increasing settlements and associated human activities

Besides affecting habitats for animals and plants, thereby impacting biodiversity, increasing destruction of wetland ecosystems has two hydrological consequences.

i) First, it leads to the reduced spongy-like effect of vegetation, thereby increasing local vulnerability to flood hazards, such as those that are regularly experienced in Budalangi and the floodplains of Nyando in Kenya. The costs of floods to the local people are enormous since they result in the destruction of property, loss of human life and exposure to relief foods.

ii) Second, loss of associated vegetation cover leads to poor infiltration of overland flow and drop of river volumes during droughts with the consequent effect of forcing the local communities to walk long distances for water or rely on unhealthy sources. Also affected are water-dependent projects/programmes.

1.6.2 Threats to Aquatic Ecosystems

The wetlands, rivers and the Lake receive large quantities of raw or partially treated sewage and industrial effluent from increasing settlements and associated human activities in the basin. Overflowing pit latrines, as well as septic tanks and contaminated storm runoff, are a major source of pollution. Wetlands are also degraded by abusive practices like waste

dumping and poorly managed excavation of sand and clay. Different factories and industries (e.g. factories processing sugar, paper and tea) discharge their effluents directly into the Lake or through wetlands.

Many factories and industries have not developed pollution management plans. The few that have such for implementation use inappropriate or obsolete technology. Generaly, monitoring and surveillance mechanisms and tools are also not in place.

As a result, the Lake and its river systems are experiencing ecological changes and deteriorating water quality. The fish species composition and yields has been affected or reduced. This trend is exacerbated by eutrophication and the proliferation of invasive plant species.

The spread of water hyacinth is choking waterways, interfering with hydropower generation, impeding light penetration, among others. Alteration of the aquatic communities as well as effects on human by pathogens and insect pests has been attributed to the water hyacinth invasion during the 1980s and 1990s. Even though the plant has been reduced by over 80 % , principally through biological control using weevils assisted by mechanical removal and manual harvesting, it is still affecting local fishing, insect pest proliferation and water transportation.

The effect of the introduction of the Nile perch has contributed to a simplified food web structure in the lake, less biodiversity of native fishes and proliferation of the amount of exotic species. This has affected, especially, the poor lakeshore communities that heavily relied on native species for subsistence.

1.6.3 Threats to Terrestrial Ecosystems

The main terrestrial system that supports the functions and services of the Lake is the forest. In addition to acting as a water regulator and purifier, the forest ecosystem is a habitat to different flora and fauna species.

Over harvesting of indigenous tree species and loss of large forest communities to forest plantations, agriculture and settlements have led to a catchment dominated by exotic tree species. These changes have degraded the ‘spongy-like’ effect of forest ecosystems and degraded the wildlife that it once supported. Destruction of forest cover, due to agricultural activities, has been experienced in all the five Riparian States. Both Nandi and Kakamega forests, for instance, have less than half of the original indigenous bird species.

While increasing exotic tree species in Lake catchment is reducing local demand for firewood, the long-term consequences are, probably, far reaching. Decreasing sizes of land parcels pose a problem to crop producers who find most exotic tree species incompatible with the crops they grow. The local herbalists, who serve the majority of the people (who cannot afford modern drugs), depend on indigenous tree species that are threatened. Along with these changes is loss of indigenous knowledge that is critical in sustainable management of forest ecosystems. Recognising the rights of marginalized groups is crucial for sustainable management of indigenous forest ecosystems.

As for wetlands, destruction of forest ecosystems has multiple consequences on the services they provide. Higher variability in flows and increased peaks, leads to local vulnerability to hazards. The impact of floods to the local people are enormous – destruction of property, loss of human life and exposure to relief foods. Secondly, as for wetlands, loss of vegetation cover associated with degradation leads to poor infiltration of overland flow and drop of river volumes during droughts.

1.7 Present and Future Ecosystem Services Demand

The present and future demand for ecosystem services is closely linked to the human well-being in the Basin. A framework for their inter-linkage, as developed by the MA (2003), is given in figure 2.1. Furthermore, studies connecting poverty with ecosystem services were conducted by IISD (2005) for four of the five Riparian States (Rwanda, Uganda, Kenya and Tanzania). . Material from the IISD series of publications has been used here, although they reflect country-based assessment, they should more or less reflect the situation within the Basin.

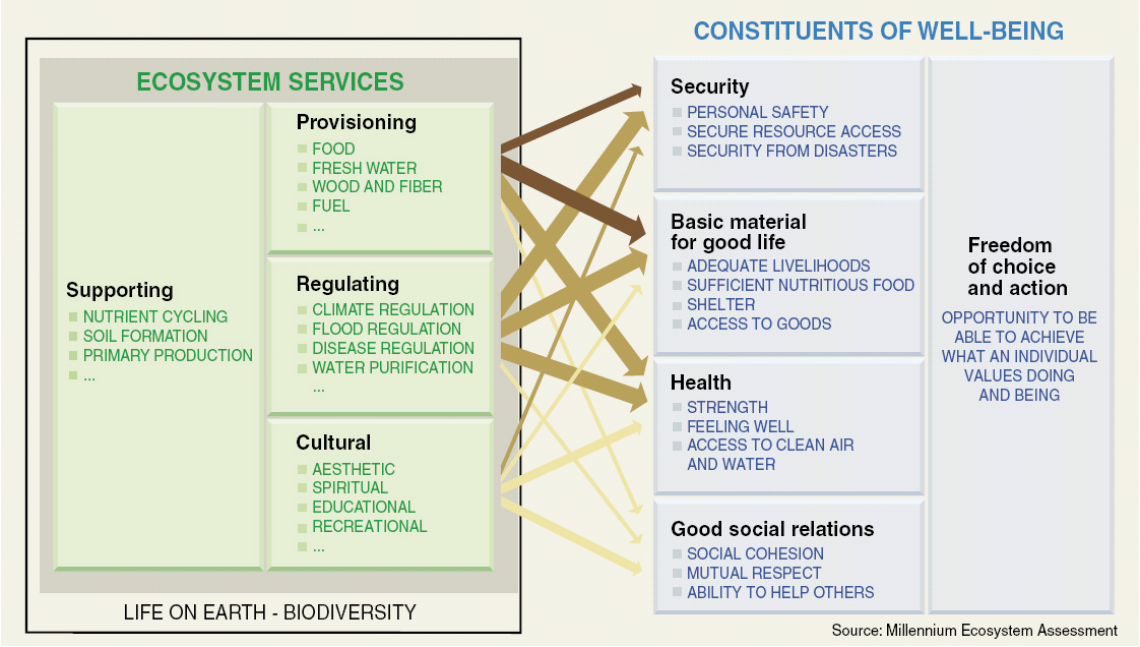

Figure 2.1. The links among ecosystem services and human welfare (MA, 2005)

In all 4 countries the major identified ecosystem services that also were stressed include:

a. Maintenance of biodiversity,
b. Food and fibre provision,
c. Water supply regulation and purification,
d. Fuel provision.

The linked human well being was defined in four specific areas focusing on:

a. Ability to be adequately nourished,
b. Accessing adequate and clean drinking water,
c. Availability of wood energy,
d. Ability to earn living.

These are reported for each of the 4 countries.

1.7.1 Rwanda

Ability to be adequately nourished

Ninety per cent of the population of Rwanda is engaged in subsistence farming and they are not able to grow sufficient amounts of food. This is closely linked with the ecosystem service of food production as food supply is characterized by low and mixed agricultural productivity

caused by a loss of soil fertility, lack of water for irrigation and access to agricultural inputs such as fertilizer and seeds. In addition, economic entitlements are low and not enough to compensate for low agricultural productivity.

Accessing adequate and clean drinking water

Fifty per cent of Rwandans do not have access to clean drinking water. This is exacerbated by the conversion of watersheds, particularly wetlands into agricultural land, thereby destroying an inexpensive method of purifying water and necessitating substantially higher future investments to provide clean water. Displaced migration to the capital has also brought severe urban water and sanitation problems. Institutional influences on a range of areas also affect the ability of Rwandese to access clean water.

Availability of wood energy

Currently, over 96 % of Rwandans depend on wood for domestic energy and 81 % of the country's energy consumption is from wood. As a result of this high demand, wooded savannahs in Kigali-Ngali's Bugesera region have almost disappeared and in many other regions are rapidly declining. This is clearly connected to maintenance of biodiversity and forests as they are being consumed at an unsustainable rate.

Ability to earn a living

Close to 51 % of Rwandans live below the poverty line, as most are subsistence farmers. Some earn a proportion of their income from various cash crops such as bananas and coffee. This well-being constituent is most closely linked with the ecosystem service of food production and given the state of agricultural production, the future ability of Rwandans to earn a living from agriculture, with its current stressors, will be increasing low.

1.7.2 Uganda

Ability to be adequately nourished

The main factor causing segments of the population to be inadequately nourished is their inability to grow food. In Uganda, food supply is characterized by declining per capita production, human-induced soil degradation, highly variable precipitation and the lack of entitlements to purchase food. While the economic entitlements of the majority of people in Uganda are low, most do earn enough money to compensate for low agricultural productivity by buying their food at the market.

Accessing adequate and clean drinking water

87 % of urban and 52 % of the rural population had access to improved drinking water sources. Overall, sanitation has declined since 1990, mostly due to a decrease in coverage in rural areas. The long-term future of this human well-being constituent is highly dependent on the protection of wetlands, which provide cost effective water filtration and storage services.

Availability of wood energy

Currently, in Uganda, there is a deficit of sustainable fuel supply. Consequently wood is increasingly scarce and requires more time and effort to collect. This well-being constituent is highly dependent on Uganda's ability to continue to encourage agro-forestry to supply fuel wood.

Ability to earn a living

Most of Uganda's rural areas saw a decline in poverty (38 % of the population lives below the poverty line), but there is still a high incidence of poverty distributed throughout the country. Subsistence agriculture and cash crops are the basis of Uganda's economy and people's livelihoods. This well-being constituent is highly dependent on the ecosystem services of food and fibre provision and these services are in decline, which will impact on Ugandans' ability to earn a living.

1.7.3 Kenya

Ability to be adequately nourished

Since subsistence crop production dominates the agricultural economy, the main factor determining poor nourishment is the inability to grow enough food. This is closely linked with the ecosystem service of food production as food supply is characterized by over dependence on variable precipitation, degraded water catchments, soil degradation and low economic entitlements. Since the population of Kenya has been steadily rising, while at the same time yields from key crops have been going down, food insecurity affects the population, at large.

Accessing adequate and clean drinking water

While it is only 43 % of the rural population has access to a reliable source of water, within less than a 15-minute walk. This figure is low compared with 83 % who have the same access in urban areas. The ability to access clean water is also a function of economic entitlements. This well-being entitlement is dependent on the ability of ecosystems to provide clean water, and these services are under stress in Kenya.

Availability of wood energy

In Kenya, the main fuels consumed are wood, charcoal and crop residues. Only 16 % of the population has access to electricity. As the population increases, fuel wood utilization is expected to increase, further constraining fuel supply. This increase in wood fuel demand negatively impacts on biodiversity and other services that forests provide.

Ability to earn living

Since Kenya's economic potential is low, the national incidence of poverty stands at 52 %. Although agriculture provides 70 per cent of Kenya's employment, and is the lifeline of 80 per cent of Kenya's rural population, it contributes just over 25 per cent to the GDP. Women represent the majority of the poor and constitute over 50 % of the total poor in Kenya. Given the state of stress of the agricultural industry, this will negatively impact the future ability of Kenyans to earn a living from agriculture.

1.7.4 Tanzania

Ability to be adequately nourished

The main factor behind poor nourishment is the inability to grow enough food. Food supply is characterized by a corresponding decline in ecosystem services with decreasing agricultural production due to inadequate distribution and quantity of rainfall, desertification and a lack of economic entitlements. The high prices of staple foods are also a contributing factor in the ability to purchase food. Commonly, people with little access to livestock or alternative means of generating income have turned to illegal bush meat hunting, which can either provide food or income.

Accessing adequate and clean drinking water

Fifty per cent of Tanzanians are without sustainable access to an improved water source and increases in urban populations have stressed the infrastructure services in urban areas. The availability and level of use of water is influenced by several other factors such as cost, wealth of the household and the number of people per household, among others. Water availability is also influenced by water supply and purification services such as seasonality of rainfall, increased sediment loads in rivers due to deforestation and soil erosion, pollution and overgrazing.

Availability of wood energy

Currently, fuel wood is being consumed faster than it is being replaced and Tanzania faces enormous energy problems; people have to go longer distances to obtain firewood; wood fuel is becoming scarcer requiring the use of low quality biomass fuels; and the need to buy wood, which was formerly a free commodity. The ability of this ecosystem service to continue to provide Tanzanians with energy is highly compromised.

Ability to earn living

Tanzania's economic entitlements are very low and 42 % of the population lives below the poverty line. While most agriculture in Tanzania is for subsistence, there are some cash crops which earn exports income. Given the high rates of poverty and lack of improvement in garnering better livelihoods, for most Tanzanians, all regions of Tanzania are experiencing an inability to earn an adequate livelihood.

1.8 Mechanisms to Satisfy Ecosystem Services Demands

Since there is an explicit connection between the health of ecosystem services and human well being, it is important to find mechanisms to satisfy the demands for the human well being. Some of the mechanisms or interventions that can be undertaken to satisfy the demands for the human well being are as follows:

1.8.1 Change the Economic Background to Decision-making

a. Make sure the value of all ecosystem services, not just those bought and sold in the market, are taken into account when making decisions,
b. Remove subsidies to agriculture, fisheries and energy that cause harm to people and the environment,
c. Introduce payments to landowners in return for managing their lands in ways that protect ecosystem services, such as water quality and carbon storage that are of value to society,
d. Establish market mechanisms to reduce nutrient releases and carbon emissions in the most cost-effective way.

1.8.2 Improve Policy, Planning, and Management

a. Integrate decision-making between different departments and sectors, as well as international institutions, to ensure that policies are focused on protection of ecosystems,
b. Include sound management of ecosystem services in all regional planning decisions and in the poverty reduction strategies being prepared by many developing countries,
c. Empower marginalized groups to influence decisions affecting ecosystem services, and recognize in law the local communities' ownership over natural resources,
d. Establish additional protected areas, particularly in marine systems, and provide greater financial and management support to those that already exist,

e. Use all relevant forms of knowledge and information about ecosystems in decision-making, including the knowledge of local and indigenous groups.

1.8.3 Influence Individual Behaviour

a. Provide public education on why and how to reduce consumption of threatened ecosystem services,
b. Establish reliable certification systems to give people the choice to buy sustainable harvested products,
c. Give people access to information about ecosystems and decisions affecting their services.

1.8.4 Develop and Use Environment-friendly Technology

a. Invest in agricultural science and technology aimed at increasing food production with minimal harmful trade-offs,
b. Restore and reconstruct degraded ecosystems,
c. Promote technologies to increase energy efficiency and reduce greenhouse gas emissions.

1.9 Conflicts and conflict management

The case of adopting shared visions and implementing strategic actions for sustainable development of the Lake Basin will, to a large extent, centre on the ability and capacity of the partner states to manage conflicts among a wide range of stakeholder interests. Latent, as well as manifest conflicts, are apparent in several areas and at different scales. *Territorial conflicts* are manifest as unresolved disputes over international borders in parts of the Lake Basin and claims to sovereignty and ownership over certain parts of the Lake. *Conflicts between different users of natural resources* pertain to the question of access to and utilisation of resources (Annex 4).

1.10 Training

The TDA and SAP processes are integral, and a training framework will need to the understanding of both, particularly being able to interpret the interaction(s) between them. This implies that the budgeting for operationalisation of the interventions for each KTI, if applicable, must encompass costing of the training components built there in (Annex 5).

2. METHODOLOGY

2.1 General Approach

The SAP is a dynamic negotiated consensus-based process. The present one was developed through a participatory approach right from collecting and analysing information, fine-tuning key transboundary issues of concern, proposing EcoQOs, identifying thematic areas for strategic actions, defining specific interventions for each strategy as well as identifying stakeholder roles (Fig. 2.1).

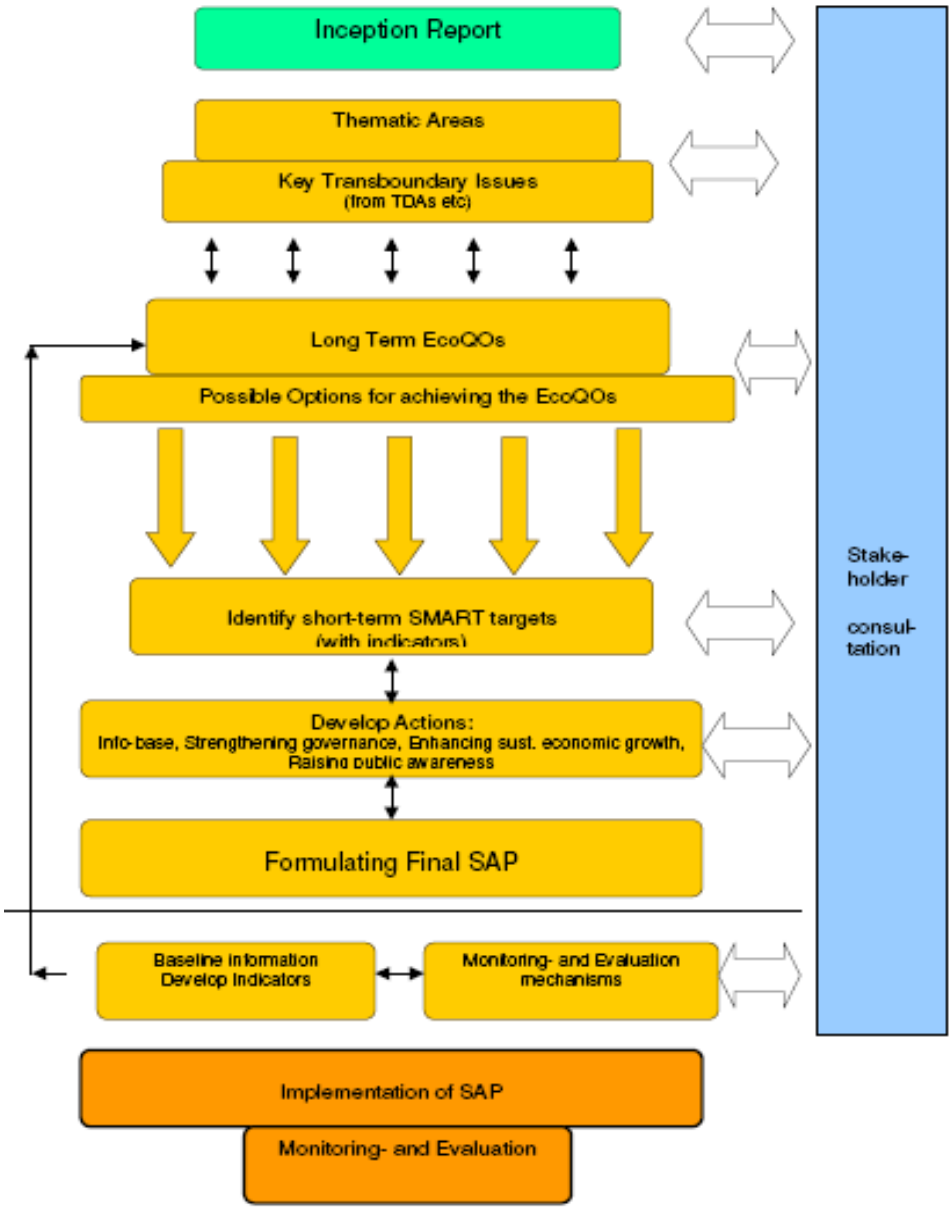

Figure 2.1: The SAP Development.

2.2 Literature Review and Information Collection

The review of the NTDAs/RTDA, Vision and Strategy Framework for the LVB, LVEMP-1 and 2 and the reports on various other activities (e.g. NBI/NELSAP reports) was undertaken in order to harmonize and understand the type, extent and usefulness of data available for preparation of the SAP. More information was collected by use of e-mails sent to various stakeholders through the LVBC Secretariat. The information gathered was subjected to discussions during national and regional consultative meetings. More details about the literature review are given in Annex 1.

The Key Transboundary Issues identified within the 5 Thematic Areas were grouped, as agreed by the Lake Victoria stakeholders for their national and regional Visions and strategic frameworks. This, which had also be agreed upon during the Inception Workshop, makes the leap from the Vision, via the TDAs, to the SAP more coherent, as also both are oriented at Basin scale more than most of the other initiatives (except NBI). Furthermore, given the inconclusiveness of the priority settings from the RTDA the stakeholders agreed that these thematic areas had to be adopted.

2.3 The Consultation Process

The SAP Process was highly consultative, driven by stakeholders with the Consultant acting as a facilitator. The process encouraged stakeholder empowerment, ownership and participation during the planning process and its outcomes (Fig. 2.2). An overview of the stakeholders concerned is given in Annex 3.

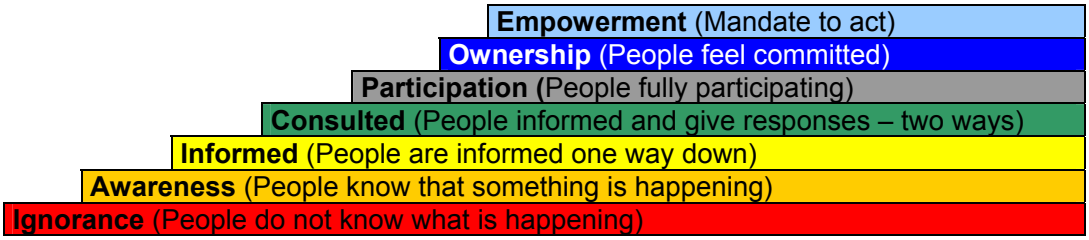

Figure 2.2. Levels of Stakeholder involvement

After the initial review of relevant documents, the Inception Report was discussed during the Inception Workshop held on 19th of October 2006 in Arusha. This workshop prioritised Key Transboundary Issues and built consensus on the further SAP process. The stakeholders reviewed the Inception Report and the comments were duly incorporated.

Due to the limitation of time for the preparation of the SAP, further consultations were carried out by e-mail. The main task for the e-mail consultations was to confirm the Key Transboundary Issues decided upon in the Inception Workshop and the corresponding Ecological Quality Objectives. These were submitted to LVBC Secretariat who forwarded them to the stakeholders, through the National Focal Point Officers. The Focal Point Officers were responsible for a one-day stakeholder Workshop held in all 5 Riparian States as follows: Tanzania (16th November 2006), Uganda (17th November, 2006) Burundi (21st November, 2006) and, both Rwanda and Kenya (23rd November, 2006). A flow diagram illustrating the consultation process is given in Figure 2.1.

3. PROGRAMME DESCRIPTION

3.1 The Components and results

The most important Key Transboundary Issues in the Lake Victoria Basin system were identified, described and prioritized in the NTDAs/RTDA. They were further elaborated, synthesized and harmonized during SAP process. The NTDAs/RTDA used the Causal Chain Analysis approach to determine immediate, intermediate and root causes. Specifically, the intermediate and root causes feed into the identification of strategies and interventions. The identified strategies and interventions are the key mechanisms to solve problems related to the *agreed* Key Transboundary Issues.

3.1.1 Thematic Areas

The SAP identified five Thematic Areas for intervention on specific critical issues. During the Inception Workshop the stakeholders agreed that the SAP builds on Thematic Areas in the Lake Victoria Vision and Strategic Framework (LVVSF) and the RTDA outputs, both developed through a consultative process. The Thematic Areas are:

a. Ecosystems, Natural Resources and Environment,
b. Production and Income Generation,
c. Living Conditions and Quality of Life,
d. Population and Demography,
e. Governance, Institutions and Policies.

3.1.2 Key Transboundary Issues

A total of 18 KTIs were identified by the stakeholders during the Inception Workshop from a long list of problem areas prepared, earlier, with an intention to identify and incorporate the most pertinent issues reported by multiple reports from the LVB. With a few changes, the stakeholders, through e-mail consultations, approved the 18 KTIs for the SAP (Table 3.1). Further prioritisation of these KTI was carried out in the regional workshop (Chapter 3.2). The details of the KTI prioritization and development process are given in Tables 3.2 and 3.3. More details, on the prioritised and non-prioritised KTI's, are given in *Annex 6*.

Table 3.1. Overview of Key Transboundary Issues with its Thematic Area

Thematic Area	Key Transboundary Issue
Ecosystems, Natural Resources and Environment	1. Pollution and eutrophication of the Lake from domestic, industrial and agricultural activities. 2. Climate change and water balance (e.g. declining water level as a result of reduced catchment inflow and rainfall around the lake, floods, droughts and variability, including disaster management). 3. Loss of aquatic and terrestrial biodiversity (e.g. reduction in fish species, flora and fauna). 4. Deforestation and wetland degradation. 5. Water hyacinth and other invasive species.
Production and Income generation	6. Fisheries - declining fish catches. 7. Inadequate infrastructure (e.g. rural road network, energy sources, safety of navigation). 8. Inadequate use and adoption of appropriate technology and research. 9. Crop production and livestock Issues (e.g. overstocking, diseases, low yields), including inappropriate market system and post harvest losses.
Living Conditions and Quality of Life	10. Poor access to health facilities and programmes (particularly HIV/AIDS, malaria and tuberculosis). 11. Inadequate safe water supply and sanitation system. 12. Low level of formal education and high illiteracy rates.
Population and Demography	13. High population growth rate (includes low access to antenatal and birth control facilities). 14. Poverty and increasing number of marginalized people (e.g. unemployed, orphans, displaced etc.). 15. Rural to urban migration.
Governance, Institutions and Policies	16. Conflicting and inadequate policies, laws, law enforcement and institutional frameworks on natural resources management and utilisation 17. Inefficient and poor land use, exploitation of natural resources and spatial planning. 18. Low level of environmental governance and community involvement. 19. Institutional management structures.

Table 3.2. Prioritized Key Transboundary Issues

Thematic Area	Key Transboundary Issue / EcoQO	Strategy / Target	Interventions	Time Frame S: < 5 y M: 5-15 y L: > 15 y	Responsibility N - National R - Regional	Categories A-Awareness E-Econ. Incentive. G-Governance I-Investment	Cost (MUSD) L - < 3 M - 3-10 H - > 10	Priority
Ecosystems, natural resources and environment	KTI 1 Land-, wetland and forest degradation EcoQO Increased areas under forest and wetland ecosystems	Strategy Integration and harmonization of forest and wetland management with spatial planning and IWRM Target 1 Aim at 10 % of total forest surface area of LVB covered by forests Target 2 10 % coverage of wetlands in the LVB in 15 years Target 3 5 % coverage of rangelands in the LVB in 15 years Target 4. 10% increase in crop and livestock production/outputs in 15 years	Invest in re-forestation and afforestation programs	M	N	G	M	1
			Invest in rehabilitation and restoration of degraded wetlands and rangelands	L	N	I	M	2
			Mechanisms that promote efficient use and investment in farming methods and practices that reduce pressure on forest and wetlands-CR, Terracing, catchment, afforestation and agro-forestry	S/M	N	G	M	3
			Promote and invest in farming methods and technologies that promote soil conservation and efficient use of agro-chemicals	M	N	AI	H	4
			Strengthen, harmonize, coordinate and implement land allocation system, land management practices and spatial planning	M	RN	G	M	5
			Enhancing community awareness and involvement in management of environmental and natural resources	S	R	A	L	6
			Invest in energy saving technology and alternative energy sources	M	N	I	H	7
			Introducing payment for environmental services, principles and promote investment in them – use of incentives and disincentives	M	N	EG	M	8
Governance, institutions and policies	KTI 2 Environmental governance, natural resource policy and institutional	Strategy 1 Harmonize, strengthen, implement and enforce policies, legal and institutional framework for natural resource management and	Strengthen laws, policies and regulations on local management	S	N	G	M	1
			Strengthen the capacity of existing national and local institutions in natural resource management and utilization	S	N	G	L	2

Thematic Area	Key Transboundary Issue / EcoQO	Strategy / Target	Interventions	Time Frame S: < 5 y M: 5-15 y L: > 15 y	Responsibility N - National R - Regional	Categories A-Awareness E-Econ. Incentive. G-Governance I-Investment	Cost (MUSD) L - < 3 M - 3-10 H - > 10	Priority
	weaknesses EcoQO Harmonized, strengthened and implemented policies, legal and institutional frameworks, and improved environmental governance and community participation.	utilization across local and national borders. Target 1 Key policies, legal and institutional frameworks related to natural resources management and utilization harmonized and implemented in 5 years Strategy 2 Enhance environmental governance in spatial planning through networking, community participation, awareness building and education Target Spatial plans, emphasizing governance and co-management for key environmental issues and natural resources are prepared within 15 year.	Support active participation of people with emphasis on youth and women in development planning	M	N	G	L	3
			Create guidelines, build awareness, build capacity for communities, educate people and establish programs for good environmental governance	S	R	AG	M	4
			Harmonize, implement and integrate policies and laws for land use, natural and water resources for better and more sustainable spatial planning and management	M	N	G	M	5
			Strengthen consultation process with communities in planning, implementation, monitoring and evaluation of projects	S	N	G	L	6
			Promote positive gender relations through shared gender roles for sustainable community involvement in planning	S	N	G	L	7
			Support co-management of natural resources and sharing of benefits with local communities	M	R	G	L	8
			Strengthen framework and application of economic incentives and disincentives for promoting environmental sustainability	M	N	G	L	9
Ecosystems, natural	KTI 3 Declining fish	Strategy Implementation of long-	Capacity building of communities on sustainable fisheries management	S	N	AG	M	1

Thematic Area	Key Transboundary Issue / EcoQO	Strategy / Target	Interventions	Time Frame S: < 5 y M: 5-15 y L: > 15 y	Responsibility N - National R - Regional	Categories A-Awareness E-Econ. Incentive. G-Governance I-Investment	Cost (MUSD) L - < 3 M - 3-10 H - > 10	Priority
resources and environment	stocks and loss of habitats and biodiversity EcoQO Increase in annual fish yield and aquatic biodiversity in the Lake	term sustainable management measures and increase biodiversity. Target1 Increase fish stocks to sustainable yield levels within 5 years Target2 Maintain aquatic biodiversity and restore habitats at present (2007) level	Strengthen, harmonize and implement policies and legislations including quota for fishing and fish processing	S	R	G	M	2
			Provide credit to support only alternative livelihoods	L	N	AIGI	H	3
			Implement the Regional plan of action on the management of fishing capacity	M	NR	AG	H	4
			Protection of fishing, breeding and nursery grounds	SML	N	AIG	H	5
			Stock restoration with fish from satellite lakes	M	R	I	H	6
			Restrictions on expansion of fish processing plants	M	R	AG	L	7
			Promote investments in cage and aquaculture industry	SML	N	AEG	M	8
			Create fish refugia and protected areas	M	N	G	M	9
			Cultured fish seed restoration of habitats	M	NR	I	H	10
Ecosystems, natural resources and environment	KTI 4 Increasing pollution and eutrophication due to atmospheric deposition, domestic and industrial activities EcoQO Decline in pollutants entering the lake and a decrease in	Strategy 1 Strengthen and harmonize point source pollution control Target 50 % reduction in point source pollutants of the Lake Victoria	Reduce point source pollution by strengthening industrial and municipal waste management in urban and industrial centers	M	N	GI	H	1
			Develop and implement spatial/urban planning with establishment of waste disposal infrastructure and clean technologies	M	N	AGI	H	2
			Harmonization of effluent standards	S	R	G	M	7
			Enforce polluter pay principles and regulations	M	N	G	L (public) H (private)	8

Thematic Area	Key Transboundary Issue / EcoQO	Strategy / Target	Interventions	Time Frame S: < 5 y M: 5-15 y L: > 15 y	Responsibility N - National R - Regional	Categories A-Awareness E-Econ. Incentive. G-Governance I-Investment	Cost (MUSD) L - < 3 M - 3-10 H - > 10	Priority
	invasive species in Lake Victoria, satellite lakes and tributaries		Economic incentives/ "Green funds" for investment in clean and sustainable technologies, including reduction, reuse, recycling and recovery of materials. E.g. agricultural water reuse	M	N	E	M	11
		Strategy 2 Strengthen and harmonize non-point source pollution control Target 50 % reduction in non-point source pollutants of the Lake Victoria	Control pollution from artisan mines and undertake restoration of them	M	N	G	M	5
			Control pollution from large-scale mines and undertake restoration of them through enforcement of existing legislation and creating awareness	S	N	AGI	L (public) H (private)	6
			Economic incentives/ "Green funds" for investment in clean and sustainable technologies, including reuse and recycling of materials	L	N/R	AGE	H	10
		Strategy 3 Implementation of programs for preventing introduction and further proliferation of invasive species Target Reduction to non-nuisance levels of 10 percent coverage in the lake, satellite lakes and tributaries	Strengthen measures and promote control of the aquatic weeds	M	R	GI	M	3
			Harmonize and enforce regulation on invasive species	S	R	G	L	4
Ecosystems,	KTI 5	Strategy	Undertake water and soil conservation measures	M	N	GI	M	1

Thematic Area	Key Transboundary Issue / EcoQO	Strategy / Target	Interventions	Time Frame S: < 5 y M: 5-15 y L: > 15 y	Responsibility N - National R - Regional	Categories A-Awareness E-Econ. Incentive. G-Governance I-Investment	Cost (MUSD) L - < 3 M - 3-10 H - > 10	Priority
natural resources and environment	Unsustainable water resources management, declining water levels, and climate change. EcoQO Increase of catchment storage and regulated discharges with lowering of sediment load and preparedness for water related disasters and sustaining lake water levels through sound IWRM principles	Development of Drought Relief and Flood Management through structured and non structured measures, early warning systems and emergency measures Target (i) A 10 % decrease in runoff variability (ii) 80% preparedness through operational programmes at local government level for disasters (iii) Increase per capita storage by 50% (iv) Increasing the existing monitoring network densities and frequencies by 25% Strategy 2 Develop a Water Demand Management Strategy for future integrated allocation and service delivery of the water resources Target All major water users following allocation guidelines set out in the Water Demand Management Strategy	Invest in education, training, public awareness and research programs for disaster management (vulnerability of both surface and ground water)	M	R	AG	M	2
			Invest in funds for disaster management and prevention	S	R	EI	M	3
			Invest in infrastructures for drought relief and flood mitigation	L	N	I	H	4
			Develop and implement clear guidelines and rules for water abstraction (surface and groundwater) for main users of the lake and lake Basin water	S	R	G	L	5
			Institutionalize risk reduction measures	S	R	G	L	6
			Develop an effective information and communication system for drought and flood preparedness	S	R	AG	L	7
			Harmonise and implement water laws and policies	M	R	G	L	8
			Invest in projects and structures for reuse of industrial and waste water	L	N	I	H	9
			Introduce and invest in active leakage control	M	N	I	H	10
			Revise and harmonise water tariff structures throughout the Basin	M	R	G	M	11
			Basin wide awareness and public campaigns on water use and conservation	M	NR	A	L	12
			Establishment and maintenance of a disaster monitoring system in order to mitigate, prevent and respond to floods and droughts	M	R	G	M	13

Table 3.3. Non-prioritized Key Transboundary Issues

Thematic Area	Key Transboundary Issue / EcoQO	Strategy / Target	Intervention	Time Frame S: < 5 y M: 5-15 y L: > 15 y	Responsibility N - National R - Regional	Categories A-Awareness E-Econ. Incentives. G-Governance I-Investment	Cost (MUSD) L - < 3 M - 3-10 H - > 10	Priority
Ecosystems, natural resources and environment	KTI Loss of terrestrial biodiversity (e.g. Flora and fauna) EcoQO Reduced terrestrial biodiversity	Strategy Strengthening and harmonization of land use, spatial development and natural resources mgmt Target All land use, spatial development and natural resources planning coordinated under an overall Basin development framework	Strengthen, harmonize and coordinate land allocation system, land management and spatial planning	M	N	G	M	
			Enforce and harmonize regulatory measures on rangeland, forest and wetland management as well as protection	M	N	G	M	
			Enhance awareness programs on environmental management	S	R	AI	L	
			Promote and invest in Sustainable Eco-Tourism services	M	NR	AI	H	
		Strategy Recovering terrestrial biodiversity. Target Maintain biodiversity at present (2006) level	Regulate excessive penetration and use of the indigenous flora and fauna so that regeneration can take place.	M	R	G	M	
			Introduce Wildlife Management Areas (WMAs), co-management of wildlife and protect wildlife habitat	M	N	G	M	
Production and income generation	KTI Inadequate infrastructure (e.g. rural road networks, water networks, air transport, ICT, energy sources, safety of navigation) EcoQO Increased investment in, and development of, various	Strategy Improvement of infrastructure and coordinate development with spatial planning Target 30% increase in annual investment and development of infrastructures	Enhance and maintain road, water transport, fish landings, railways, airway, communication and energy networks at national and regional level	L	NR	I	H	
			Develop national and regional plans for increased investment in trunk roads	S	R	G	M	
			Mobilize diversified funding and management of infrastructure, i.e. encourage government, private sector and community partnerships	M	R	G	M	
			Encourage energy efficiency and create incentives for use of alternative energy sources	M	R	E	M	
			Investment in national and regional navigation safety monitoring systems	M	R	I	M	

Thematic Area	Key Transboundary Issue / EcoQO	Strategy / Target	Intervention	Time Frame S: < 5 y M: 5-15 y L: > 15 y	Responsibility N - National R - Regional	Categories A-Awareness E-Econ. Incentives. G-Governance I-Investment	Cost (MUSD) L - < 3 M - 3-10 H - > 10	Priority
	infrastructures (roads, energy, light houses and landing infrastructure etc.)		Increased investment in power generation/transmission/ distribution	ML	N	I	H	
			Private sector as a provider of infrastructure sector services	M	N	G	M	
Production and income generation	KTI Inadequate use and adoption of appropriate technology and research EcoQO Expanded research for, and adoption of, appropriate new technologies	Strategy Introduce appropriate technologies for better conservation and protection of the environment Target A 45 % increase in investment in new technologies	Investment in environmentally sound technology in all sectors (R)	M	R	I	H	
			Invest in research for development of ecological friendly services and products (R)	M	R	I	M	
			Differential taxation and insurance levels for dirty/clean technologies (L)	M	N	G	M	
		Strategy Development of arenas for innovation and facilitate the making of regional “champions Target 10% yearly growth in investment in arenas for innovation and centers of excellence	Facilitate private involvement in sector development	M	N	G	M	
			Create and enhance national and regional centers for excellence in Research and Development	M	R	G	M	
			Create a regional framework for effective marketing of innovative products and new technology	M	R	G	L	
			Promote private investment in research and development	M	R	G	L	
			Private sector investment in provision of telecommunication and internet services	SM	N	I	H	
			Promote and invest in alternative sources for energy	SM	N	I	H	

Thematic Area	Key Transboundary Issue / EcoQO	Strategy / Target	Intervention	Time Frame S: < 5 y M: 5-15 y L: > 15 y	Responsibility N - National R - Regional	Categories A-Awareness E-Econ. Incentives. G-Governance I-Investment	Cost (MUSD) L - < 3 M - 3-10 H - > 10	Priority
Production and income generation	KTI Crop production and livestock Issues (e.g. overstocking, diseases, low yields) including inappropriate market system and post harvest losses EcoQO Improvement in crop and livestock husbandry and increase in yields	Strategy Harmonize, strengthen and stabilize crop and livestock production for food security Basin-wide, including increased market access as well as better storage, value addition and transportation of products Target 30% average increase of annual yield compared to last decenniums in livestock and crop production	Investment, development and adoption of improved technologies through Strengthened R & D	M	R	GI	H	
			Diversification of crops to minimize risks in fluctuation as well as foster proliferation of higher value crops	M	N	GI	H	
			Development of private sector investment in extension services provision	M	N	I	H	
			Improve infrastructure for production, transport and access to markets	SM	N	I	H	
			Harmonized and coordinated control and monitoring of pests and diseases in the region	S	R	G	M	
			Creating national and regional frameworks for effective marketing of innovative products and new technology	S	R	G	L	
			Development of cost-effective irrigation and water harvesting technologies for growth and stabilization of crop production	M	R	G	M	
			Create Basin-wide accessibility to livestock products to “scalp” local overproduction	M	R	GI	H	
			Investment in better storage and transportation facilities	M	N	I	H	
Living conditions and quality of life	KTI Poor access to health facilities and programmes (particularly HIV/AIDS, malaria and tuberculosis)	Strategy Strengthening of health programs and services targeting major diseases (particularly HIV/AIDS, malaria and tuberculosis but also communicable diseases)	Strengthen organization of the health sector	M	N	G	H	
			Provide affordable and accessible quality health care, facilities and trained staff, especially in rural areas	M	N	GI	H	
			Increase investment in basic health care	M	N	I	H	

Thematic Area	Key Transboundary Issue / EcoQO	Strategy / Target	Intervention	Time Frame S: < 5 y M: 5-15 y L: > 15 y	Responsibility N - National R - Regional	Categories A-Awareness E-Econ. Incentives. G-Governance I-Investment	Cost (MUSD) L - < 3 M - 3-10 H - > 10	Priority
	EcoQO Adequate provision of, and access to, basic health care for all people living in the Basin	Target 100% coverage for basic health care in the Basin	Education and awareness programs and outreach on preventive health care	M	N	G	M	
			Institutionalize testing and counselling	S	N	G	M	
			Provision of support for affected and infected	S	N	E	H	
			Strengthen awareness campaigns, sensitization and capacity building on HIV/AIDS to communities	S	N	AG	M	
			Expand access to medicine as well as nutritious food to HIV/AIDS Victims	S	N	EI	H	
			Increase accessibility to drugs, especially in rural areas, through amongst others extension of service providers	S	N	EI	H	
Living conditions and quality of life	KTI Inadequate safe water supply and sanitation system EcoQO Full coverage for the population to safe water and sanitation services	Strategy Harmonize, coordinate and strengthen the sectors for service delivery (water supplies and sanitation) Basin-wide Target 100% coverage for safe water and sanitation services in the Basin	Facilitate funding for rural and peri-urban water supply	M	N	G	M	
			Coordinate spatial planning with planning of service delivery and cleaning facilities Basin wide	M	N	G	M	
			Investment in infrastructure for water/sanitation service delivery including new technologies	M	N	I	H	
			Institutionalize regulators on service delivery	M	N	G	M	
			Differentiate water pricing systems	SM	N	G	L	
			Institutional strengthening and harmonization Basin-wide in demand management and service delivery	M	R	G	M	
			Education programs and awareness campaigns in basic hygiene practices and sustainable water harvesting and conservation techniques	S	N	AG	L	

Thematic Area	Key Transboundary Issue / EcoQO	Strategy / Target	Intervention	Time Frame S: < 5 y M: 5-15 y L: > 15 y	Responsibility N - National R - Regional	Categories A-Awareness E-Econ. Incentives. G-Governance I-Investment	Cost (MUSD) L - < 3 M - 3-10 H - > 10	Priority
			Support community participation and capacitate them in planning, organisation, construction, maintenance and management of their water supply and sanitation facilities	S	N	G	M	
			Support campaigns to protect water sources from contamination	S	N	A	L	
			Repair and maintenance of existing water supply and sewerage systems	SM	N	I	H	
			Enhance training of water supply and sanitation personnel	M	N	G	M	
Living conditions and quality of life	KTI Low level of formal education and high illiteracy rates EcoQO Full coverage of basic formal education, and an increase in higher education, throughout the Basin communities	Strategy Harmonization and strengthening of basic and higher education throughout the region Target 100% coverage of basic education and an 50% increase in higher education in the Basin	Provision of universal primary education backed by adequate budgetary allocations where lacking	M	N	G	H	
			Promotion of private investment in education system	S	N	G	L	
			Government support to marginalized groups	SM	N	E	H	
			Rehabilitation and construction of new schools, especially in rural areas	M	N	I	H	
			Promoting vocational training institutions and skills development with particular emphasis on young people	S	N	A	L	
			Promoting and supporting girl-child education	S	N	A	M	
			Establishment and enhancement of centers of excellence	M	N	I	H	
			Promotion of technical education in the region	S	N	A	L	
			Harmonization of curricula, standards assessment and evaluation of education	S	R	G	M	

Thematic Area	Key Transboundary Issue / EcoQO	Strategy / Target	Intervention	Time Frame S: < 5 y M: 5-15 y L: > 15 y	Responsibility N - National R - Regional	Categories A-Awareness E-Econ. Incentives. G-Governance I-Investment	Cost (MUSD) L - < 3 M - 3-10 H - > 10	Priority
			Prepare law (s) and enforce them to discourage school girls from forced early marriages and pregnancies	M	N	G	M	
			Awareness campaigns on education	S	N	A	L	
Population and demography	KTI High population growth rate (includes low access to antenatal and birth control facilities) EcoQO Attaining a growth rate that matches with the resources and ability to serve it, and increased access to antenatal and birth control facilities	Strategy Develop and introduce programs and campaigns for stabilization of growth rates throughout the region, including provision of facilities for control Target Stabilize the population growth within the next 5 years by 30% reduction	Carry out information, education and communication campaigns to sensitise communities and policy makers on the interrelationship between population, environment and sustainable development	SM	N	A	M	
			Support family planning and reproductive health schemes	SM	N	A	M	
			Integrate population issues in policies and development planning	M	R	G	M	
			Support formalized courses in education for family planning	SM	N	E	M	
			Investment in antenatal and birth control facilities	M	N	I	H	
Population and demography	KTI Poverty and increasing number of marginalized people (e.g. unemployed, orphans, displaced etc.) EcoQO Decrease in numbers of marginalized people throughout the Basin	Strategy Harmonize and strengthening programs for uplift of marginalized people Basin-wide Target Reduce the number of disadvantaged people by 50%	Integrate environmental issues into poverty reduction interventions	S	R	G	L	
			Establish economic incentives for small companies and industries	S	N	E	M	
			Create, promote and strengthen credit provision for marginalized people, e.g. micro finance and credit	S	N	E	M	
			Design and implement low cost housing programs	M	N	I	H	
			Improve productivity of small scale farmers/fishermen, and reduce post harvest losses	S	N	G	M	

Thematic Area	Key Transboundary Issue / EcoQO	Strategy / Target	Intervention	Time Frame S: < 5 y M: 5-15 y L: > 15 y	Responsibility N - National R - Regional	Categories A-Awareness E-Econ. Incentives. G-Governance I-Investment	Cost (MUSD) L - < 3 M - 3-10 H - > 10	Priority
	communities		Minimize vulnerability to rainfall variability by increasing investment in smallholder irrigation and commercialization of agriculture and livestock	S	N	I	H	
			Strengthen orphan care	S	N	AE	M	
Population and demography	KTI Rural to urban migration EcoQO Reduced rate of rural to urban migration	Strategy Harmonization and strengthening of plans and initiatives for rural development Target Yearly rural to urban migration rates halved by 2025	Address conflicts resulting from rural-urban migration	S	N	A	L	
			Invest in and improve economic and employment opportunities and develop entrepreneurial/ vocational skills for rural population	M	N	I	H	
			Provide financial incentives like micro-credits to rural population through a gender sensitive approach	S	N	E	M	
			Invest in basic services like water supply and sanitation, health care, education and access to markets	M	N	I	H	

3.1.3 Ecological Quality Objectives

An Ecosystem Quality Objective (EcoQO) is a statement on how the stakeholders would like to see the state of the Lake Victoria Basin be in the future. For each KTI the stakeholders defined an EcoQO.

The proposed EcoQOs and knowledge derived about the current state, KTI and its root causes of the Lake Victoria Basin helped to identify the strategies and also to define the interventions, through a consultative process.

3.1.4 Indicators

Indicators normally gave information about progress made toward the goals or objectives. For each EcoQO an indicator was selected, defined, and agreed upon with the stakeholders. In the context of the SAP, indicators are tools used for monitoring and evaluating the implementation of various strategies to reach the EcoQO. To provide information about the progress towards the identified EcoQOs, three types of environmental indicators may be used:

i. *State indicators*: Indicators of changes in the physical, biological or social state of the area/part of the area.
ii. *Pressure indicators*: Indicators of stresses or pressures from human activities that cause the environmental changes.
iii. *Response or process indicators*: Indicators of measures of the policy or short terms actions addressed to the environmental problem.

Then, using EAC protocols and in conformity with GEF *modulus operandi,* the mechanisms to carry out the different types of monitoring and evaluation of the action plan has, at this stage, been identified.

3.1.5 Strategies

Through consultation, at the National Workshops, the stakeholders defined one or more strategies to obtain the EcoQO for each KTI. The strategies form a solution for each issue, and combined a solution for reaching the overall vision of the Lake Basin.

3.1.6 Targets

For each strategy the stakeholders decided upon a specific Target, which describes the progress they would like to see for each KTI. Each target has been defined as SMART, i.e.

- Specific
- Measurable
- Accurate
- Realistic
- Time bound

3.1.7 Interventions

Each strategy constitutes a set of interventions. Interventions are practical/operational measures on how to achieve the targets.

3.1.8 Time Frame

The stakeholders agreed the following time frames for implementation of each intervention:

Short term:	< 5 years
Medium term:	5-15 years
Long term:	>15 years

3.1.9 Responsibility

For each intervention it is stated if the responsibility for the execution should be on Regional (R) or National (N) level. National responsibility includes interventions, which should be executed at local level.

3.1.10 Category

Each intervention is categorized into one or more out of four categories as follows::

i. Awareness raising

These are interventions (e.g. use of newspaper articles, radio programmes, public meetings (*barazas),* flyers, etc) to raise public awareness.

ii. Economic Incentives

Economic incentives will include, but not be limited to incentives such as micro credit facilities, financial support to training courses, financial support to marketing of local products, support to marginalized groups, support to energy efficiency initiatives, promotion of new technologies, subsidies to drugs, etc.

iii. *Investment*

Investment interventions include technical or structural interventions, for example, modifications of elements of the Basin infrastructure such as roads, reservoirs, etc. Technical interventions are often introduced together with managerial interventions

iv. Governance

Governance interventions includes:

a. *Managerial interventions* to improve planning and operation of the system, such as better ways of using the infrastructure,
b. *Ecological (non-structural) interventions* to improve the functioning of the ecosystem, for example by rehabilitating and/or conserving wetlands and other restoration practises,
c. *Regulatory and legal interventions* to restrict uncontrolled use of the resources (through land-use zoning, permits, pollution control and other forms of restrictive legislation),

d. *Institutional interventions* specifying which governmental agencies are responsible for which functions in management of the Basin, and specifying the necessary interactions between public and private sectors involved,
e. *Economic interventions* to induce consumers to use the resources in a socially desired manner by changing the price of the resource use (through charges, taxes or subsidies).

3.1.11 Cost Frame

Each intervention is classified within one out of three cost frames:

Low cost: < 3 million USD
Medium cost: 3 -10 million USD
High cost: >10 million USD

3.2 Prioritized Key Transboundary Issues and Interventions

The five priority KTIs are listed in Table 3.4.

Table 3.4. Prioritized KTIs

Thematic Area	Key Transboundary Issue
Ecosystems, Natural Resources and Environment	➢ Pollution and eutrophication of the Lake from domestic, industrial and agricultural activities. ➢ Climate change and water balance (e.g. declining water level as a result of reduced catchment inflow and rainfall around the lake, floods, droughts and variability, including disaster management). ➢ Deforestation and wetland degradation.
Production and Income generation	➢ Fisheries - declining fish catches.
Governance, Institutions and Policies	➢ Low level of environmental governance and community involvement.

In order to rank the Priority KTIs, the Regional SAP workshop reviewed the Major Perceived Problems and Issues (MPPIs) identified in the RTDA. These MPPIs were weighted by each of the Riparian State by granting 3 points to high (H), 2 points to medium (M), and 1 point to low (L) and, later aggregated in a regional-level total. These MPPIs have now been re-grouped according to the 5 KTIs selected as priorities in the context of the Regional SAP workshop, as indicated below in Table 3.5

Table 3.5. Major Perceived Problems and Issues (MPPIs) in the LVB by country.

Prioritized KTI			Country					MPPI
	MPPIs	KTI	B	K	R	T	U	Total
#1	5.Land Degradation	4	H	H	H	H	H	15
	6.Deforestation	4	H	H	H	M	H	14
	8.Wetland Destruction	4	H	H	H	M	H	14
	MPPI average for this KTI	4						14.33
#2	10.Inadequacies in Policy, Laws and Institutions	18	H	H	H	M	M	13
#3	3.Declining Fisheries (over fishing)	6	M	H	M	H	H	13
	4.Biodiversity loss	6	L	H	H	H	H	13
#4	1.Pollution (Water Quality deterioration)	1	H	H	M	H	M	13
	9.Water Hyacinth	5	L	H	M	H	H	12
	MPPI average for this KTI	1						12.5
#5	2.Water Balance and Water level fluctuations	2	L	H	M	H	H	12

Tables 3.4 and 3.5 show that there is good correspondence between the 5 KTIs prioritized by the Regional SAP workshop and the MPPIs ranked by the RTDA.

After discussion in the Regional SAP workshop, the following was decided:

(i) The stakeholders regarded the water hyacinth problem as a serious problem in the Lake and its tributaries. Since this is closely related to pollution and eutrophication, it recommended that it be included into KTI 1 as a separate strategy issue.

(ii) Land degradation was included explicitly in KTI 4 in order to capture synergies in outcomes for management of forest and wetlands ecosystems as well as sustainable land management, more generally.

(iii) Stakeholders regarded aquatic biodiversity as an additional important issue and agreed to include it under KTI 6 – Fisheries. With this change, it was also decided to move this KTI to Thematic Area – "Ecosystems, Natural Resources and Environment".

(iv) That some of the interventions originally proposed under KTI 16 and 17, should be lifted to KTI 18.

Following the above amendments the numbers of KTI's were reduced to 15 whereof 5 prioritized and 10 non-prioritized. The revised, prioritized KTI's have been renamed and ranked in Table 3.6.

Table 3.6. Revised Prioritized KTIs

Thematic Area	Key Transboundary Issue	Priority
Ecosystems, Natural Resources and Environment	Land, wetland and forest degradation	1
	Fisheries, habitats and biodiversity	3
	Pollution, eutrophication and atmospheric deposition of the Lake from domestic and industrial activities	4
	Water balance, water use management and climate change	5
Governance, Institutions and Policies	Governance, policy and institutional weakness	2

These priority KTIs are in conformity with the following GEF financing windows:

1. International waters
2. Sustainable land management

After the prioritization of the KTIs, the stakeholders reviewed, in working groups, the interventions under the prioritized KTIs. The targets for each KTI was revisited and adjusted where necessary. All the KTIs are listed in Table 3.2, the first 5 in prioritized order and the other non-prioritized.

3.3 Overall cost of the SAP

The classification of cost and time frames of the proposed interventions has been given in sections 3.1.8 and 3.1.11. For the prioritized KTIs, 16 interventions is classified as short term, whereof 9 are low cost and 7 are medium cost; 28 interventions are medium term, whereof 7 are low cost, 12 medium cost and 9 are high cost; 7 interventions are long term, whereof 2 are medium cost and 5 are high cost.

Similarly, for the non-prioritized KTIs, 25 interventions is classified as short term, whereof 20 are low cost, 11 are medium cost and 4 are high cost; 50 interventions are medium term, whereof 4 are low cost, 24 medium cost and 22 are high cost; 2 interventions are long term, whereof both are high cost.

Using the mean value, as the expected cost for each intervention, the cost for the interventions related to the prioritized KTIs will be in the range as indicated.

(i) Short term 70 MUSD
(ii) Medium term 280 MUSD
(iii) Long term 120 MUSD

The cost for the interventions related to the non-prioritized KTIs will be in the range indicated.

(i) Short term 180 MUSD
(ii) Medium term 620 MUSD
(iii) Long term 40 MUSD

More details are given in Tables 3.7 and 3.8 below.

Uncertainties with these figures are regarded as high both concerning the cost estimate and the time frame for implementation. The estimated time frame for the interventions might be on the optimistic side, pushing some of the short-term interventions to medium term, and some of the medium term interventions to long term.

There are also relatively high uncertainties in the costing of each intervention, as a detail costing will require breaking down each of the intervention into components and projects. It is, therefore, essential that before implementation, detailed costing and cost-benefit analysis must be carried out for each intervention.

Also it is important to be aware of the uncertainties and take this into consideration in the further work with the SAP. The uncertainties in the estimates can be classified based on the assumptions made in the expected values. The uncertainty in the estimate for expected values is large when there is large probability distribution, and in the cases where there are neither reliable baseline data nor good forecasts. Typical examples, which could indicate large uncertainties in the estimates, can be:

a. Lack of experience with the particular intervention.
b. Complex intervention with unknown connection of cause-impact.
c. Rapidly changing environment, for instance changes in technology.
d. Potential positive or negative impacts will occur many years ahead.

Another way to classify the impacts of the uncertainties is according to the sensitivity for variance in the assumptions. A variation from the expected value for an uncertain factor may cause anything from an insignificant to a large consequence for the benefit of the intervention. Examples that the benefit is sensitive to variance in the assumptions for expected values can be when:

a. The intervention affect many people
b. The investment is large
c. If the intervention is irreversible
d. The impact is long term

Table 3.7. Details of prioritized KTIs

Time Frame	Cost (Mill USD)							
	Low		Medium		High		Total	
	No	Cost	No	Cost	No	Cost	No	Cost
Short term	9	18	7	49	0	0	16	67
Medium Term	7	14	12	84	9	180	28	278
Long term	0	0	2	14	5	100	7	114
Sum	16	32	21	147	14	280	51	459

Table 3.8. Non-prioritized KTIs

Time Frame	Cost (Mill USD)							
	Low		Medium		High		Total	
	No	Cost	No	Cost	No	Cost	No	Cost
Short term	10	20	11	77	4	80	25	177
Medium Term	4	8	24	168	22	440	50	616
Long term	0	0	0	0	2	40	2	40
Sum	14	28	35	245	28	560	77	833

3.4 Assessing the Benefits of Regional/Transboundary Resource Management

When assessing the financial or economic feasibility of an environmental management initiative (plan or programme), the focus is placed on finding the least-cost solution to the given problem. With this approach the planned activities usually aim at reaching some pre-defined level for physical, ecological or social parameters. Unfortunately, this approach does not assess the “returns” or economic value of the benefits achieved by the planned investments. A more comprehensive approach is to assess the effectiveness of the investments in the light of the expected economic returns of an improved environment. Whether it is worth or economically feasible (for individual countries or for the region as such) to invest a certain amount of resources, in environmental management, will, largely, depend on the economic value of the expected environmental improvements.

In the case of the LVB, it would be wise to estimate the economic value of the expected improvements in the quality of the environment and life of the beneficiaries. Financial resources are a scarce good in developing countries and, therefore, investments in improving environmental quality should be allocated in those areas where the expected economic returns (benefits) are larger.

The lack of any serious attempt to find the economic value of the environmental and social costs associated to the lack of proper management of the resources in LVB is at the core of the problem. The estimation of the economic loses generated by the different environmental and human problems identified by the RTDA, and summarized in our KTIs, should become a useful piece of information to orient the design of the management actions and to support the tasks of the decision makers.

It should be very relevant for the sustainable management of the LVB to have an assessment of the economic value of the environmental goods and services that are generated in the Basin, as well as an assessment of the value of the demand for these good and services. With such an assessment, and with improved knowledge on the dynamics of the physical environment in the Basin, it could be considered the possibility to establish a scheme of “payment for environmental services”. Such a scheme may serve as an incentive to promote improved land and resource use in the Basin.

4. FINANCING OF THE PLAN

4.1 Needs

The interventions financing needs fall into five categories as follows:

1. Awareness raising and capacity building,

2. Economic incentives, such as micro credit facilities, financial support: training courses, marketing of local products, marginalized groups, energy efficiency initiatives, promotion of new technologies and subsidies to drugs among areas of support,

3. Technical activities including studies; demonstration and pilot projects, planning, training, institutional strengthening, baseline studies, monitoring, programme design and implementation, project identification, preparation and feasibility studies,

4. Capital investment to reduce and control pollution, infrastructure,

5. Harmonization, implementation and enforcement of legal framework, institutional strengthening and the recurrent cost of monitoring, operation and maintenance.

4.2 Sources

In general the origin of financial resources for the SAP can be grouped into two, namely:
1. Local sources,
2. International sources.

4.2.1 Local sources

National budget and concessional loan

Several of the interventions included in the SAP fall well within the scope of work and responsibility of particular national institutions in the Riparian States (e.g. Ministry of Health, Ministry of Education, Ministry of Public Works, and others), and will henceforth, largely, be financed by local sources. Such local sources could include the national budget and or by projects/programmes financed through concessional loans from international financial institutions.

4.2.2 International sources

International sources of financing can be found in several institutions. Among them are:

1. GEF,
2. The World Bank Group (WB, IDA),
3. UN-family organizations (UNDP, UNEP),
4. Other multilateral sources such as the European Union, the African Development Bank and East African Development Bank,

5. Bilateral cooperation agencies from main donor countries such as Canada, Denmark, Finland, France, Germany, Italy, Japan, The Netherlands, Norway, Sweden, Switzerland, United Kingdom, USAID.).

The GEF-funding may play a catalytic role in the leverage of funds from additional sources, particularly for the prioritized interventions since these interventions fall, naturally, under the GEF windows of International Waters and Sustainable Land Management.

According to GEF OP 8 (Water body-based Operational Program), GEFs assistance may be provided, among other aspects, to: support the *incremental cost* of technical assistance, capacity building, limited demonstrations, and certain investments needed to address priority transboundary concerns.

4.3 Mechanisms

Financial resources, whether from internal sources such as national or provincial budgets or from external sources, such as international financial institutions, are scarce and their availability limited in time. The only way environmental management initiatives, such as the ones contemplated in this SAP can be sustainable, in the medium and long term, is by means of establishing economic incentives or mechanisms for the sustainable management of natural resources. Economic instruments, aimed at both raising funds, which can not only be used to partially finance the costs of the interventions (e.g. management plans), but also to promote changes in the behaviour of resource users or polluters (households, industries, government institutions, and others). Some possible mechanisms are listed below.

4.3.1 Mechanisms on Regional/National level

a. Gradually change the prises for the water uses in line with their economic costs to encourage more efficient water use and to mobilise the funds needed for operation, maintenance and new investment.
b. Establish and apply certain fees for the supply of municipal and industrial water according to the volumes consumed. These fees should gradually cover the costs of collection, treatment and distribution.
c. Establish a fee for the discharge of wastewater, which complies with the regulations adopted for its discharge into public channels, rivers and the Lake. The fee should take into account the volume of water discharged and its quality, and its ultimate aim should be to treat wastewater, help maintain and monitor the quality of the receiving water.
d. In accordance with the “polluter pay” principle:
    - the users should, where appropriate, pay for the costs of collection and disposal of urban waste;
    - establish, where appropriate, an industrial waste management fees at rates that reflect the cost providing the service and ensure that those who generate the wastes pay the full cost of disposal in an environmentally sustainable way.
e. Establish fines for fishermen who exceed their fish quotas. The fines should be used for interventions to improve the fish stock and to establish fish farms.

f. Establish fines for illegal exploitation of wetlands, forests and other natural recourses. The fines should be used for mitigation of the exploitations, such as rehabilitation of degraded wetlands, afforestation etc.
g. Prepare environmentally voluntary agreements between authorities, producers, and users of hazardous waste and substances that are toxic, persistent to bioaccumulation, for the reduction of pollution.
h. Both public and private sectors should set up funds from which advances to support markets of recycling goods.
i. Introduce economic and financial incentives for sustainable use and protection of wetlands.
j. Introduce economic and financial incentives to encourage the use of less pollution goods.
k. Introduce economic and financial incentives to encourage the use of cleaner production technologies and attract environmental friendly use of natural resources.
l. Introduce pollution fees and fines to reduce the environmentally harmful impact and activities. Pollution fees and fines can be used as a source of funds for environmental activities.

The efforts to mobilise local, national and regional resources for environmental protection, through user fees or pollution charges, are expected to yield results very gradually. Regional, national and local loans are not major factors in the short term because regional and national capital markets and banks have not been developed to support environmental improvements and services. Regional, national and local investment is constrained by historical barriers to private ownership, a limited banking and financial sector, and inexperience of potential investors with the types of activities proposed in the SAP.

4.3.2 External financial resources

The external financial resources serve a central role in order to support and complement the efforts for successful implementation of the SAP. Some of the financial mechanisms and instruments for the implementation of the SAP are:

k. Grants and concessionary assistance from GEF and UNDP.
l. Loans from multilateral and regional banks (IDA, AfDB, EADB).
m. Financial instruments from the European Union.
n. Grants and loans from bilateral donors.

4.4 Mobilization

Mobilization of resources is essential for the development and implementation of the SAP. Raising and channelling the financial resources required to cover the diversity of issues (KTIs) identified under each Thematic Area of the SAP is a major challenge. The bulk of the resources needed to improve the environmental and social conditions of the LVB should be raised from the Riparian Countries. International sources of financing will play a catalytic role in financing key aspects of the SAP, however, the main responsibility lies within the countries themselves.

Effective international cooperation is important for a successful and cost-effective SAP. International cooperation serves a central role in enhancing capacity building, technology transfer and cooperation, and financial support. Moreover, effective implementation of the SAP requires efficient support from the international agencies. Furthermore, international cooperation is required to ensure regular review of implementation of the SAP and its further development and adjustment.

The actions/interventions outlined in the SAP include priority issues, which demand the attention of each of the five LVB countries. These are interventions aimed at solving the root causes of the problems arising from within their own country borders. However, some of the main environmental problems in the LVB do not constrain themselves within each country's borders, but they often spread well beyond their own territories reaching and affecting negatively some or all the other LVB countries.

The Riparian Countries should team up to obtain the most effective mobilization of financial resources. This effort should be coordinated by LVBC. Furthermore, each country should ensure that new interventions and initiatives are coordinated with ongoing initiatives (see Annex 2) and national budgets. Likewise, LVBC must ensure that new initiatives are coordinated with ongoing regional initiatives (see Annex 2) where two of the most important are LVEMP-2 and NBI.

LVBC will be the coordinating body in the mobilization of funds, and will contact donors and international forums to arrange conferences for discussing long term rising of 16 of the prioritized interventions are short term, for example, to be completed in a time frame of 5 years. The total cost of these interventions is estimated to a range between 30 and 97 mill. USD. The implementation of the programme should be collaboration amongst the Riparian States on project assessment and design, ownership, investments and institutional development.

Private sector will also play an important role in the implementation of certain intervention such as reduction of point source pollution, investment in the infrastructure sector such as water and sanitation and renewable energy sources.

The strengthening of public-private partnership arrangements, designed to encourage the active involvement of governance bodies, business communities and civil society, is seen as a potential option as a model for financing.

5. IMPLEMENTATION ARRANGEMENTS

5.1 Objective

The objective of the SAP is to provide a strategic framework for joint management of transboundary resources and environmental challenges in the LVB. By providing avenues for stakeholder involvement, the SAP is intended to improve knowledge of the relationship of natural resource base, its utilization and the implications on human welfare and environmental health. SAP will, therefore, promote Basin-wide cooperation and awareness of the human-ecosystems-environment interaction within the EAC framework of the LVB. The actual activities will include policy dialogue, institutional capacity building, governance, technological innovations, surveillance and monitoring mechanisms and information sharing.

The actual activities will require site selection and stakeholder participation, both at national and regional levels. The emphasis will be to encourage diverse stakeholders to work towards a common vision. One way would be through effective coordination and cooperation between the five Riparian States if shared resources/constraints are meaningfully translated into services and functions urgently needed by the local communities. The SAP is, therefore, to serve as a commitment by the national governments towards this accomplishment.

5.2 Approach

To ensure that the SAP promotes a broader understanding and appreciation of Transboundary resources and associated management issues, winning trust and realizing ownership will be critical. Previously isolated attempts to address environmental and resources management issues will now have to be addressed within a regional framework, to better enable a variety of stakeholders gain from synergy resulting from international collaboration.

Focusing on common concerns, SAP will build a network of contacts working towards Basin-wide approaches to reducing tension, to build greater understanding and trust, and eventually pave way for agreed common approaches to address poverty reduction and environmental restoration. Improved sharing of information and regular consultations will encourage streamlining of human-resource-environment interactions, and promote communities that are more aware of the inter-relatedness of the natural resource base of the LVB. Finally, joint planning and implementation will benefit from horizontal and vertical consultations and ensure that local community needs are mainstreamed within the EAC framework on LVB issues. An overview of concerned stakeholders is given in Annex 3.

To ensure sustainability of SAP activities, there will be need to mainstream them into national priorities and relevant regional initiatives. This approach will pave way for respective institutions to eventually capture SAP activities in their annual budgets, especially for purposes of leveraging external funding. The entry points could include the various country driven initiatives listed in Annex 2.

5.3 Institutional/Organisational Structure

The implementation of the SAP will be the responsibility of the LVBC Secretariat through the national focal points. The institutional arrangements will be structured with the following actors (see also Annex 6 – Figure 2):

- Summit of Heads of State.
- EAC Council of Ministers.
- LVBC Sectoral Council.
- Coordinating Committee (of Permanent Secretaries).
- RPSC for LVEMP-2 (includes Permanent Secretaries of focal Ministries).
- NPSC for LVEMP-2 (includes members within the Partner State).
- Focal Ministries.
- Implementing agencies (local and central government).
- Stakeholder forums (participating NGOs, CBOs, private sector etc.).
- Review process (by a task force on monitoring of the SAP).

6. DEVELOPMENT OF INDICATORS AND MONITORING FRAMEWORK

The monitoring and evaluation (M & E) process is an integral part of the SAP. The M & E process will provide information on the progress of the SAP-activities according to the plan and whether the interventions are successful in achieving the EcoQOs or not. The process includes the measurements and monitoring of PROCESS INDICATORS (input) and STATE and PRESSURE INDICATORS (output) as presented in Table 6.1. Monitoring is a continuous process, which provides information to the stakeholders and the donors about the progress, and it ensures that the process is maintained according to the plan. Monitoring also measures the quality and effect of the SAP.

6.1 M & E Plan

A monitoring and evaluation (M & E) plan is to be established and should be adapted to the different KTI s and EcoQos. Monitoring is mainly based on quantitative indicators and objective assessments. The M & E action plan has, therefore, to follow the SAP-structure by linking to each KTI/EcoQO and will include following components for the prioritised KTIs:

k. A set of indicators for each KTI /EcoQO (Input and output indicators),
l. A network of sampling points – key sites,
m. Monitoring frequencies,
n. Reporting methods and frequencies,
o. Evaluation,
p. Quality Assurance document for monitoring and evaluation of the SAP

6.1.1 Indicators

In order to support effective evaluation of the SAP-interventions, indicators need to be established to measure the input (the interventions) and to assess trends in the environment, trends in pressures from human activities that cause the environmental changes and progress in the process (output).

Indicators of measures for the policy or short-term actions addressed to the environmental problem – the interventions: RESPONSE OR PROCESS INDICATORS are the input from the SAP.

Indicators of changes or trends in the physical or biological state of the environment: STATE INDICATORS and Indicators of pressures or stresses from human activities that cause the environmental changes: PRESSURE INDICATORS are the output from the SAP.

This pressure-state-response framework is internationally adopted as a set of parameters and has been applied and agreed by the stakeholders in the SAP-process.

6.1.2 Network of sampling sites/Key sites

When implementing the SAP all baseline information about state of the environment, sampling points/networks, other monitoring programs and present relevant knowledge about regional collaboration and initiatives should be reviewed and reported as baseline for further evaluation.

To monitor and evaluate input and output effectively a limited number of key sites in the Basin have to be selected. The selection of sites has to be done due to the pressures that cause the environmental problems. The capacity for sampling and analysing data on the chosen SAP-interventions has also to be taken into consideration before the key sites and network are defined. The network of sampling sites has to be coordinated with ongoing monitoring and scientific programs in the Basin.

6.1.3 Monitoring/Sampling frequencies

The frequency of sampling data depends on the formulation of the EcoQO and the targets related to the EcoQO. To achieve a cost-effective M & E, the assessment and decision of frequencies and indicators have to be coordinated within the SAP and towards other programs in the Basin, especially those under NBI.

6.1.4 Reporting frequencies and – methods

The frequency of reporting for each monitoring activity has also to be adapted to the EcoQO's and targets. A tracking matrix for each EcoQO can be established to monitor input parameters from the interventions

To provide the stakeholders with information about the monitoring activities, a monitoring report, including all SAP-activities (inputs) and ecosystem (outputs) data, will be periodically disseminated. The focus for this report should be on the various levels of policy and decision makers.

This report will provide input to the ongoing regular evaluation processes. At a minimum the evaluation should be undertaken at start, mid-term and when finalising the interventions. Some interventions may not have a final ending point, however (e.g. management interventions), whereas others have (e.g. structural interventions).

6.1.5 Quality Assurance Document

Based on realistic assessment of capacity in each country and existing standard methods and equipment for sampling, analysis and reporting, a quality assurance system has to be the background for implementation the monitoring and evaluation plan.

6.2 Development of indicators

6.2.1 KTI 1: Land, forest and wetland degradation

The high population density and growth in the LVB, has resulted in a considerable pressure on the land. Measurable parameters on land management, which are possible

to monitor, will be good indicators for evaluating the SAP process. Land use statistics, from satellite imagery analysis, will indicate the state of the environment. However, for process indicators there will be need for data about implemented land allocation systems, land management practices and spatial planning.

6.2.2 KTI 2: Environmental governance, natural resource policy and institutional weaknesses

The aim at creating more effective Basin-wide stakeholder cooperation on transboundary issues, by supporting development and the implementation of the SAP, is difficult to evaluate in an effective way. Indicators, which illustrate progress in the process, are related to activities in official institutions/organisations related to strengthening and harmonization.

6.2.3 KTI 3: Declining fish stocks and loss of habitats and biodiversity

Development of indicators and monitoring of declining fish stocks, loss of habitats and biodiversity is threefold. For declining fish stocks, the indicator should be annual fish yield in the LVB monitored through proper catch reporting and control routines. For loss of habitats the indicator should be size of breeding and feeding grounds of the fish species. These should be monitored trough scientific surveys. For fish biodiversity the indicator should be number of threatened or endangered species also monitored trough scientific surveys.

6.2.4 KTI 4: Increasing pollution and eutrophication due to atmospheric deposition, domestic, agricultural and industrial activities

In order to monitor the process, it will be useful to collect data about strengthening of the legislation and about investments in water treatment and cleaner technologies. The stress reduction parameters have to include data on water quality in tributaries to LV.

LVEMP I established a harmonized in-lake monitoring network for water quality monitoring, including the Lake Victoria transects surveys (2000 – 2005), which have indicated substantial changes in water quality (Final RTDA, EAC 2006). The program includes data on nutrients as phosphorus and nitrogen (eutrophication), persistent organic/inorganic components (POP and heavy metals). Appropriate data from LVEMP and historical water quality data should be used for following the implementation of the SAP, and the monitoring program should be followed up and continued. To monitor the origin of eutrophication and pollution and the effect of the interventions the monitoring network should be assessed and improved.

6.2.5 KTI 5: Unsustainable water resources management, declining water levels, and climate change,

For monitoring of this KTI and its targets the following is suggested. The first indicator should be the amount of runoff variability monitored through stream and lake level measuring activities. Indicator two should measure percentage of communities, municipalities and cities prepared for disasters (floods and droughts) monitored through interviews and evaluation of these bodies. The last indicator should be number of IWRM plans made operational, monitored trough evaluation of government performance on this aspect of IWRM.

Indicators and monitoring framework for evaluation of the prioritised Key Transboundary Issues are reported in the tables of the following pages. These has for consistency reasons been presented together with their Key Transboundary Issue and subsequent EcoQo's.

Table 6.1. Prioritized KTIs - Indicators for each EcoQO

Key Transboundary Issue	EcoQO	Type of Indicator:	Monitoring activity	Mon. frequency	Evaluation frequency
KTI 1 Land-, wetland and forest degradation	EcoQO Increased a reas under forest and wetland ecosystems	Process: Investments (USD/year) in land use programs. Protection of forest, wetland and rangeland Stress reduction: New settlements in fragile ecosystems. Acreage of protected area. State: Total surface area of LVB covered by forests, wetland and rangeland	P: Budget allocation and expenditure/use on land use programs. Reviews, assessments and evaluations Sr: Satellite Images Analysis Map Analysis S: Satellite Images Analysis	P: Yearly Sr: Yearly S: Yearly	P: Yearly Sr: 5th year S: 5th year
KTI 2 Environmental governance, natural resource policy and institutional weaknesses	Harmonized, strengthened and implemented policies, legal and institutional frameworks, and improved environmental governance and community participation.	Process: No. of initiatives per country: Spatial plans, emphasizing governance and co-management for key environmental issues and natural resources Stress reduction: State: Implemented harmonised laws and participatory plans in the countries	Review, assessment and government performance evaluation Review, assessment and government performance evaluation	P: Yearly Sr: Yearly S: 5th Year	P: Yearly Sr: S: 5th year
KTI 3 Declining fish stocks and loss of habitats and biodiversity	Increase in annual fish yield and aquatic biodiversity in the Lake	Process: No. of implemented and harmonised legislations. No of protected fishing, breeding and nursery ground Weight and value of fish marketed Stress reduction: Fish yield pr year	P: Review, assessment and government performance evaluation Review, assessment and evaluation Surveys and evaluations Sr: Sampling and analysing fish yield data and catch assessment surveys	P: Yearly Sr: Yearly S: 5th year	P: Yearly Sr: Yearly S: 5th year

Key Transboundary Issue	**EcoQO**	**Type of Indicator:**	**Monitoring activity**	**Mon. frequency**	**Evaluation frequency**
		State: No. Endangered species Fish stock statistics	S: Review and assess scientific reports.		
KTI 4 Increasing pollution and eutrophication due to atmospheric deposition, domestic and industrial activities	Decline in pollutants entering the lake and a decrease in invasive species in Lake Victoria, satellite lakes and tributaries	Process: No. of functional waste water treatment plants Stress reduction: Water quality in main rivers to LV. Water hyacinths in Kagera river. State: Concentration of heavy metals and POPs in fish Total P & N in open waters Acreage covered by water hyacinth.	P: Regular review and assessment Sr: Regular monitoring and review S: Fish sampling and chemical analysis: Hot spots Network/transects in Open lake waters Satellite imagines analysis	P: Yearly Sr: S: Yearly	P: Yearly Sr: S: 5th year
KTI 5 Unsustainable water resources management, declining water levels, and climate change.	Increase of catchment storage and regulated discharges with lowering of sediment load and preparedness for water related disasters and sustaining lake water levels through sound IWRM principles	Process: Percentage of communities, municipalities and cities prepared for disasters Process: Number of IWRM plans made operational State: Hydrology data: Inflow and outflow parameters (LVEMP)	P: Evaluation and interviews of bodies P: Evaluation of government performance S: Stream and lake level measurements	P: Yearly P: Yearly S: Monthly	P: Yearly P: Yearly S: Yearly

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ANNEX 1. GLOSSARY OF TERMS

Agenda 21: Is the United Nations Conference on Environment and Development (Earth Summit) agreement on action to be taken to protect the environment. It proposes integrating environmental protection and economic development.

Baseline Costs: Is the reference point for calculating incremental costs. The GEF funds the difference between the cost of a project undertaken with global environmental objectives in mind and the costs of the same project without global environmental concerns. The baseline is the latter project that yields only national benefits.

Benthic: The environment where organisms are attached to, or rest on, the substrate.

Biodiversity as defined in the Convention on Biological Diversity: "Biological diversity" means the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

Co-funding or co-financing: Since the GEF funds the incremental costs of projects, with few exceptions (e.g. for enabling activities) GEF projects require additional funding from other sources to cover the national benefits costs. This additional funding component is referred to as co-funding. The incremental cost can be co-financed as well.

Convention on Biological Diversity: Was opened for signature at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in June 1992. The principal objectives of the Convention on Biological Diversity are the conservation and sustainable use of biological diversity, and the fair and equitable sharing of benefits arising from its utilisation The Convention recognises that the key to maintaining biological diversity depends upon using it in a sustainable manner.

Dublin Principles: The Dublin Statement on Water and Sustainable Development, prepared at the International Conference on Water and the Environment (ICWE) in Dublin, Ireland, January 1992, calling for fundamental new approaches to the assessment, development and management of freshwater resources.

Eutrophication: A process in which increasing nutrient load in rivers or lakes triggers algal blooms which in turn result in de-oxygenation and a change in species.

Gazetted (e.g. Gazetted Forest Reserve): Is a legally established protected area, with boundaries published in the Government Gazette or some other formal record of government procedures.

Global environmental benefits: These accrue to the global community, as distinct from solely national benefits that accrue to the people of the country, in which a project is located.

Hot spot: Is a local land area, stretch of surface water or specific aquifer which is subject to excessive pollution or other human induced pressure and which requires a specific action to prevent or reduce degradation.

Incremental cost: Is the additional cost that the GEF funds between the cost of an alternative project that a country would have implemented in the absence of global environmental concerns and a project undertaken with global objectives in mind.

International waters: One of the focal areas that the GEF focuses on. Defined as the seas, shared river and lake Basins and shared estuaries and wetlands and shared groundwater aquifers. The distinguishing feature is that more than one nation has access to or makes use of them.

Investment project: A project where a significant part of the funding is used for the acquisition of capital equipment or the creation of infrastructural benefits.

Leveraging: Refers to the ability to secure, or "leverage" additional funds for GEF project implementation. GEF projects, generally, require such co-financing from host governments, the Implementing Agencies (UNDP, UNEP and the World Bank), multilateral development banks, bilateral agencies and/or other funding sources.

Littoral: the near-shore environment.

Pelagic: the open water environment.

Point source, Non-point source: a localised discharge of pollutants, (e.g. from an industrial plants; non-point source indicates diffuse pollution (e.g. agricultural runoff).

Protected area: A geographical area or territory with legally defined boundaries, established to afford protection to certain natural characteristics of particular value or interest, in the case of Lake Victoria Basin this is generally only used to refer to the formal network of National Parks or Natural Reserves.

Public involvement: A basic operational principle for GEF project development and implementation is that the public be involved at all stages. Public involvement consists of information dissemination, consultation, and stakeholder participation. The GEF policy on public involvement is outlined in Public Involvement in GEF-Financed Projects, 1996.

Ramsar Convention: Aims to protect wetlands sites of international importance.

Stakeholder: Is the term applied to those potentially affected by a project, including recipient country governments, implementing agencies, project executing agencies, groups contracted to conduct project activities at various stages of the project, and other groups in the civil society which may have an interest in the projects.

The Protocol for Sustainable Development of Lake Victoria Basin: The Protocol defines areas of cooperation as well as the institution; the Lake Victoria Basin Commission prepared by the East African Community.

ANNEX 2 - REVIEW OF THE TDA AND RTDA REPORTS, AND OTHER RELEVANT LITERATURE

S/No.	Document	Relevance to the SAP	Remarks
1	*RTDA (2007)*	*Identification of thematic areas for intervention at specific critical areas pertinent for LVB management* *Setting tentative regional priorities for further consultation and ownership* *Formulation of mitigation measures for proposed activities*	*The regional priorities are not yet conclusive in the Final Draft RTDA document.* *However, there is lack of precision on baseline data and a link in RTDA to regional and country driven reforms and investments.* *SAP Consultant will make use of LVB Vision and Strategic Framework Report and consultative workshops to refine the preliminary regional priority areas*
2	*NTDAs (2006)*	*In-depth understanding of LVB and existing environmental characteristics esp. levels of degradation* *Identification of priority transboundary issues and their diagnosis* *Formulation of National and subsequently Regional Environmental Quality Objectives (EcoQOs)* *Identification of institutional and stakeholder participation areas* *Suggesting options to address key issues and interventions by SAP* *Outlining the actions to be implemented by each country to address priority issues*	*Very useful qualitative baseline data in formulating monitoring and evaluation mechanisms to ensure effective implementation of the programmes* *NTDAs will be pooled together to fill in gaps in RTDA document on regional priority issues and investments to remedy the environmental degradation and achieve other SAP targets.* *In general, the information will be useful in filling in the data gaps identified in RTDA document and in refining regional priority areas.*

S/No.	Document	Relevance to the SAP	Remarks
		identified. *Identifying progress indicators and milestones where achievements can be measured Identification of country-driven reforms and investments in preventing further degradation of LVB* *Guaranteeing conformity of SAP to national and regional environmental action plans* *Identifying present and future demands of ecosystem services* *Designing a programme for natural resource conflict management at national and regional levels* *Designing training programmes*	
3	*The Vision and Strategy Framework for Management and Development of LVB (2003)*	*Establishing LVB status, trends and identification of progress indicators and setting clear milestones where achievements can be measured* *Complementing in identification of thematic areas for intervention* *Complementing in outlining the actions to be implemented by each country to address the priority issues* *Identification of national and regionally driven reforms and investments* *Developing strategic action programme for the*	*The data provided is, however, limited to Tanzania, Kenya and Uganda. NTDAs and the scheduled consultative workshops will supplement the information on Rwanda and Burundi profiles.* *The NTDAs and RTDA and subsequently country consultative workshops will be useful in validating and building consensus on the preliminary priorities at the regional level.*

S/No.	Document	Relevance to the SAP	Remarks
		protection of threatened natural resources and ecosystem within the LVB	
4	*Protocol for Sustainable Development of LVB (2004)*	*Contextual setting and describing the multi-country commitments made and formulating institutional arrangements needed for ensuring the implementation of the programmes and for monitoring its effectiveness*	*Multi-country commitments will be solicited in a consultative manner*
5	*The East African Community Development Strategy 2001-2005 (2001)*	*Ensuring that the proposed measures by SAP conform to regional policies and regionally driven reforms jointly aspired by the EAC.* *Describing the multi-country commitments made* *Formulating appropriate institutional arrangements needed for ensuring the implementation of the programme*	*Further country commitments to SAP will be solicited during consultative workshops*
6	*Dialogue on the Regional Integration in East Africa (2001)*	*Identifying thematic areas for intervention based on expectations on economic integration*	*To be validated by consultative workshops*
7	*Water Resources and Environment – World Bank Technical Notes (2003)*	*Adding knowledge on current scientific and technical principles for integrated watershed management applicable to LVB*	*Ought to be understood on the context to the EAC Region*
8	*Brief Introduction on the TDA/SAP Processes and their Requirements: Reducing*	*Identifying stress reduction and progress indicators*	*This is a UNDP and GEF document. It has to be understood on the context to the EAC Region. Indicators will be validated during*

S/No.	Document	Relevance to the SAP	Remarks
	Environmental Stress in Marine Ecosystem. *(2005)*		*consultative workshops*
9	*Lake Victoria Region Water and Sanitation Initiative (LVWATSAN)* *(?)*	*Adding knowledge on current scientific and technical principles for integrated watershed management specific to LVB* *Describing institutional arrangements needed for ensuring the implementation and sustainability of the Programme* *Guiding principles of programme design* *Identifying progress indicators; monitoring and formulating evaluation framework incorporating clear milestones where achievements can be measured.*	*This is a UN-Habitat initiative. Institutional arrangements, progress indicators, and M &E mechanisms will be validated through consultative approach.*
10	*Mitigation of Environmental Problems in Lake Victoria, East Africa: Causal Chain and Policy Options Analysis* *(2004)*	*Adding to the information necessary to quantify and refine strategic actions necessary in the formulation of SAP* *Enriching the consultant in possible policy options that can help in protection of threatened natural resources and ecosystem within LVB*	*Sourced from Royal Swedish Academy of Science, 2004 and ought to be understood on the context to the EAC Region*
11	*One Basin at a Time: The GEF and Governance of Transboundary Waters* *(2004)*	*Describing the multi-country institutional arrangements needed for implementation of SAP* *Enhancing the contractual environment and*	*Sourced from Global Environmental Politics, 2004 and ought to be understood on the context to the EAC Region*

S/No.	Document	Relevance to the SAP	Remarks
		regional governance institutions	
12	*Lake Tanganyika: Experience and Lessons Learned (?)*	*Describing institutional arrangements and management environment needed for ensuring the implementation and sustainability of the Programme* *Sharing lessons of experience emerging from Lake Tanganyika Basin SAP so that LVB SAP is effectively implemented*	*Further validation of the institutional arrangement and management of SAP will be made in a consultative manner.*
13	*Global International Waters Assessment (GIWA), East African Rift Valley Lakes, GIWA Regional Assessment 47 (2004)*	*Similarities in regional Lakes environmental characteristics esp. On contents, thematic areas and transboundary issues* *Shared methodological issues* *Shared policy options esp. describing institutional arrangements*	*By UNEP, GEF and KALMAR (2004)*
14	*Strategy for the Preparation of Lake Victoria Environmental Management Project Phase Two (LVEMP-2) (2004)*	*Identification of thematic areas* *Clarification of the ToR for SAP preparation process* *Options for Institutional Management and Implementation Arrangements*	*East African Community (May, 2004)*
15	*Lake Victoria Environmental Management Project, Phase Two (LVEMP-2), Stakeholder Consultation and Design Workshop (2005)*	*Formulation of progress indicators that will track whether implementation of the reforms and investments incorporate clear milestones where achievements can be measured*	*Convened by the EAC Secretariat and Report Prepared by Michael Randel, WB Consultant and Workshop Moderator (January, 17-19, 2005), Arusha, Tanzania*

S/No.	Document	Relevance to the SAP	Remarks
16	*Lake Victoria Environmental Management Project, Phase Two, Project Inception Note (Dr. Ladisy K. Chengula) (2006)*	*Identification of thematic areas* *Identification of key transboundary issues* *Indicative budget for projects to be proposed* *Key financing stakeholder for projects to be proposed*	*WB views* *Precise document*
17	*LVEMP 1:* *Synthesis Reports on Water Quality and Fisheries*	*Baseline information* *Identification of Key Transboundary Issues* *Aspects for monitoring*	

ANNEX 2 - KEY REGIONAL AND NATIONAL INITIATIVES

The main process of the various initiatives, leading up to the SAP has been described in the background and introduction. Hereunder is a more specific description of each initiative.

Regional Initiatives

The Lake Victoria Shared Vision

Recognising that there existed, no overall, but specific visions in the Basin – not least, those of LVFO and LVEMP, among others, the CLVDP mandated in 2001 the EAC to ensure that an overall vision and strategy framework be developed to accommodate all present and future actors in the Basin.

The overall objective of the vision development process was to assist stakeholders, across the Lake Basin, to:

(i) Develop broad consensus on realistic, achievable objectives and indicators for sustainable management of Lake Victoria in a time frame of 15 years; and,

(ii) Develop mechanisms that will enable stakeholders to advocate their interests, provide feedback to government, and monitor progress towards achieving goals.

The common vision serves as, a shared basis for discussing perspectives, strategies and approaches to set key priorities, initiate agreed actions, and monitor progress towards the agreed goals.

A large number of stakeholder groups in the three riparian countries of Kenya, Uganda and Tanzania, including the fisher folk and their communities, fish processors and traders, farmers, representatives of the business community, conservationists, local authorities and central government, were involved in this process.

The vision and strategy framework development for the LVB was thus, implemented in recognition of the need to create harmony in the management and interventions Basin wide, with a view to eliminate duplications and overlaps and to ensure full participation by stakeholders. This exercise was, simultaneously, undertaken by the respective National Task Forces , and then reviewed and harmonised by a Regional Task Force. The task was undertaken between November 2001 and August 2003. The Regional Task Force recommended the following overall vision for the LVB[1]:

"A prosperous population living in a healthy and sustainably managed environment providing equitable opportunities and benefits."

The Council of Ministers of EAC adopted this vision in January 2004.

Realisation of the great potential for healthy and sustainable socio-economic and environmentally sound development of Lake Victoria Basin lies in the combined efforts and integrated management of common resources across sectors and national boundaries.

[1] A set of 5 policy area visions was also agreed, as well as strategic actions therein to reach these visions (or desired futures).

Lake Victoria Environmental Management Project

LVEMP-1 was prepared and implemented under a Tripartite Agreement signed in August 1994 by Kenya, Uganda and Tanzania. Up to that time, there was no existing instrument, which could guide the joint implementation of interventions in the LVB. The first phase of LVEMP was concluded on 31st December 2006.

The focus of the LVEMP-1 was the creation of baseline data/information for knowledge base to guide future action plans; the building of human and institutional capacity; problem identification and prioritisation; and pilot studies. Most of the project objectives, set out at the beginning, were achieved to varying degrees, in all the three countries.

Among the lessons learned from LVEMP-1 was the realization that certain activities would require much longer time to produce any tangible results. LVEMP-1 could, therefore, not solve all the intended problems. It took a long time for the problems of the Lake and its catchment to become apparent, and it would probably take long for these problems to be addressed. Indeed, it was recognized from inception of the project that if the challenge of the LVEMP-1 was to correct changes in the ecosystem that took several decades to develop, implementation should be continuous for a period of at least 15 – 20 years and should attract a larger set of investments. Thus, LVEMP-1 was seen as a first step in a long process that leads to improvement in sustainable use of the natural resources of the Lake Victoria Basin.

Rwanda and Burundi are upstream countries whose activities may have impacts in the Lake Basin. During LVEMP-1, three major transboundary issues associated with these two countries were detected, namely: inflow of water hyacinth, siltation and deforestation. It was, however, not possible to carry out a detailed analysis of these problems in the two countries because they were outside the scope of LVEMP-1, especially because they were not members of the EAC. This impediment is no longer applies because the two countries are now member states of the EAC.

During the implementation of TDA/SAP, deliberate efforts were made to ensure that the two upstream countries take an active part in the process. An MOU between EAC and Rwanda and Burundi has been prepared as part of this efforts. Rwanda has since signed the MOU whereas Burundi is yet to sign. Rwanda and Burundi have been, however, collaborating with EAC Partner States through the NEL-SAP initiative and the Lake Victoria Research Programme (VicRes).

The Nile Basin Initiative

Following from an initiative launched by the Council of Ministers of Water Affairs (Nile-COM) of the Nile Basin States in 1992, the Canadian International Development Agency (CIDA) supported the development of an Action Plan for the Nile River Basin. In 1997 UNDP and the Word Bank joined CIDA to make up a joint 'Nile-Team' to play a leading role in coordinating the inputs of external agencies to finance and implement the Action Plan. Formally established in February 1999, the Nile Basin Initiative, comprising of the ten riparian states[2], decided to develop a broad based Basin-wide programme (the Shared Vision Programme) of collaborative action, exchange of experience, and capacity building, covering seven areas:

i. Nile Transboundary Environmental Action,
ii. Nile Basin Regional Power Trade,
iii. Efficient Water Use for Agricultural Production,

[2] Burundi, Democratic Republic of Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda

iv. Water Resources Planning and Management,
v. Confidence Building and Stakeholder Involvement (Communication),
vi. Applied Training, and,
vii. Socio-economic Development and Benefit-Sharing.

The Shared Vision Programme was endorsed by Nile-COM in March 2001. In parallel, sub-Basin action programmes (Subsidiary Action Programmes) have been prepared geared towards physical investments in the Nile Equatorial Lakes and the Eastern Nile regions. Questions of coordination and/or integration between the different ongoing Lake Victoria programmes and the Nile Basin Initiative, in particular the various NELSAP activities has been addressed as an important element in the future strategy for the Lake Basin. The same is the case for the implications and impacts of the Nile Treaty of 1929 on the management and benefit sharing of the Lake Victoria water resources.

The EAC Strategic Partnership Agreement

On the initiative of SIDA, the East African Community and the governments of Sweden, France and Norway, together with the Word Bank and also the East African Development Bank, have signed a partnership agreement on "The Promotion of Sustainable Development in the Lake Victoria Basin". The basis if this agreement is outlined in a Strategy Paper prepared by SIDA (SIDA, 1999) emphasising the need to take a regional approach to the complex and multi-sector nature of the problems facing Lake Victoria.

The agreement points at the need for donors to take on long-term commitments and envisages a time perspective of 20 years to reach the goal "to contribute to an equitable and sustainable development – economic, social and environmental – to the benefit of the people living in the Lake Victoria Basin area".

The agreement underlines the importance of reaching a common understanding of the task ahead and the need to reach a shared vision among the EAC states, the international development banks and the donor community, in particular the EC and bilateral donors: "A long-term development process needs to be put in place and be guided by a vision rather than by sector specific targets that only involving as many of the relevant stakeholders as feasible".

The agreement accentuates the transboundary nature of the problems facing Lake Victoria and states that parallel regional and national approaches to problem solving will be needed. The choice between regional or national implementation will be dependent on actual context and nature of the problem at hand. As a rule, implementation should either be left to specialised regional institutions, national or local authorities according to the principle of subsidiarity.

Four broad areas of intervention are focused:

i. The building and strengthening of networks between national institutions, local authorities, administrations, universities, business organisations and NGOs;
ii. The development of knowledge, institutional capacity through strengthening institutions, training activities and research;
iii. The mapping of pollution sources and unsustainable use of natural resources, setting priorities for necessary institutional reforms and investment programmes;
iv. The development of a framework for investments in the different economic sectors such as industry, agriculture, livestock, forestry, fishery, tourism, water treatment, energy and infrastructure for the lake Basin area.

The TDA/SAP process, as well as the results of the Vision project, feeds directly in to the principles of this agreement.

Also a sample of more specific (or narrower) regional scale initiatives, which have some relevance for the SAP, has been undertaken. These are, amongst others;

i. Various projects and initiatives through the Lake Victoria Fisheries Organisation (LFVO) some of which include: the Lake Victoria Fisheries Research Programme (LVFRP); The Nile Perch Project (with IUCN); and the LVFO Strategic Vision 1999-2015.
ii. Lake Victoria Water Resources Project (FAO, Japan, Italy).
iii. Specific projects within NBI/NELSAP including: Sio-Malaba-Malakisi; Mara; and Kagera Transboundary Integrated Water Resources Management and Development Projects.
iv. Mount Elgon Regional Ecosystem Project (LVBC/IUCN).
v. Cross border biodiversity programme (ACTS).
vi. HIV/AIDS Initiative (LVBC/AMREF).
vii. Cosmo-Lav-Community strategy for Management of Lake Victoria.
viii. The Lake Victoria Research (VicRes) Initiative (IUCEA/SIDA).

Transboundary Diagnostic Analysis (TDAs)

The National and Regional TDAs are directly linked with the National and Regional SAPs (see Figure 3) as they were undertaken to identify the root causes of the major transboundary issues of concerns. To various degrees the TDAs have also identified strategies and interventions, included in this Regional SAP.

The TDAs, together with the Vision project, were the main input for the SAP process. The outcomes, five national (NTDAs) and a regional report (RTDA), have assisted the riparian countries to identify the priority transboundary concerns in a geographic perspective along with their root causes. Further, they will be essential and beneficial to the preparation of LVEMP-2.

Since the project identified transboundary issues in the entire Lake Victoria Basin, new outcomes from upstream states, namely Rwanda and Burundi, have added value to previous initiatives and approaches.

National Initiatives

Understanding national initiatives is critical in order not only to be able to integrate and complement on going process with those envisaged by the SAP, but also to be able to measure the stakeholders commitments in addressing similar issues. Each country has made some strides linked to the SAP and, therefore, LVB vision. The following is the submission of major country-driven initiatives, which have a bearing to this vision.

Tanzania

Strategic Plan for Implementation of Land Laws – SPILL (2005-2014)

The SPILL is meant to streamline the land laws into the socio-economic life of Tanzania. It aims at operationalising the land laws, especially the administrative machinery, with a view to safeguarding customary and granted rights for poverty reduction.

Business Environment Strengthening for Tanzania – BEST (2004-2009)

The overall objective of BEST is to reduce poverty through enhancing the growth and development of businesses of Tanzania, particularly micro and small firms in sectors that affect the majority of the poor. Thus, BEST aims at reducing the burden on business by eradicating as many procedural and administrative barriers as possible and improving the quality of services provided by government to the private sector, including commercial dispute resolution.

Mini Tiger Plan (MTP) 2020 Program (2004-2020)

This is a government undertaking to establish conducive economic environment in promoting specific commodities for exports in specific geographic areas by developing Special Economic Zones (SEZ). It aims at attracting Foreign Direct Investment (FDI) and thereby accelerating annual economic growth from 8 % to 10 %. The sectors in question include agriculture, livestock, forestry, fishery, mining, manufacturing, financial services and tourism. The programme, like the LVB initiatives aim at establishing economic zones. Thus, the MTP could pick part (s) of the LVB as SEZ (s).

Local Government Reform Program -LGRP (2005-2008) at 65.0 million USD

The local government reform in Tanzania is a vast and complex programme of change. It involves fundamentally changing the way the business of government is carried out across the whole mainland Tanzania. It is being implemented against a backdrop of great political, economic and social change in the country. Thus, re-energising the implementation of the Government's policy of "decentralisation by devolution" as set out in the 1998 Policy Paper on Local Government Reform. The objective, therefore, is to provide and achieve better service through decentralisation by devolution to Tanzanians especially the poor.

Local Government Support Project-LGSP (2005-2008)

The LGSP is designed to support a new government capital development grant system, *inter alia*, through provision system of capital and capacity building grants for local government Authorities (LGA). The government wishes to establish a link between financing of local government and their performance in key areas of financial management, participatory planning, pro-poor budgeting, budget execution and the broader areas of governance such as transparency and accountability, council functional processes and involvement of Lower Local Government. The link seeks to promote compliance with national policies, legal and regulatory framework and introduces an incentive system that allows for adjustment of annual grant allocation to each LGA.

Cooperative Capacity Building Integrated Program -COCABIP (2005-2007)

The COCABIP's main objective is to build up human and institutional capacities as well as cooperative capital structures with a view to promoting the institutionalisation of member based socio-economic enterprises, cooperatives and community-based enterprises. These are instruments of the National Strategy for Economic Growth and Poverty Reduction – *MKUKUTA* and as per the National Cooperative Development Policy.

Small Entrepreneurs Loan Facility Project -SELF (1999-2010)

The SELF Project was introduced by the government with a view to addressing the problem of the poor, particularly those in rural areas to access the micro-finance services largely due to lack of credit worthiness; SMEs lacking financial status as businesses; SMEs being incapable of providing collaterals and SMEs being unable to afford lending costs. The main objective of SELF Project is to improve access of the poor in rural areas to micro-finance services.

Agricultural Services Support Program -ASSP (2005-2011)

The ASSP is designated to setting reforms in agricultural services. It envisages a significant change in approach to agricultural service delivery. Thus, to ensure that service provision is of high relevance to the needs of the farmers. It is, in a way, empowerment of the farmers to articulate these needs and influence the way services are provided. This will also improve efficiency in resource use of resources by mobilising both public and private sources of funding and by reducing transaction costs through, for instance, concentrating on assisting empowered farmer groups rather than individuals.

Participatory Agricultural Development and Empowerment Project -PADEP (2004-2009)

PADEP is a demand driven intervention to enhance agricultural development through promotion and adoption of improved technologies by target communities while enhancing active participation of private sector in marketing. The project is to cover 480 villages i.e. 26 districts targeting 500,000 households in entire Tanzania. Selected areas of intervention include crop production, livestock production, marketing and soil and water management.

Cooperative Reform and Modernization Program -CRMP (2005-2010)

In 2002, the government promulgated a Cooperative Development Policy and thereafter, Cooperative Legislation in 2003 in a bid to resuscitate the cooperatives. The CRMP outcome includes economically strong cooperatives with effective membership empowerment, good governance and accountability. The CRMP objectives are similar to *COCABIPs whose* activities include updating laws and facilitating training in good governance.

Major policy and legal reforms

As it applies for Kenya and Uganda, the policy and legal reforms in Tanzania were part of the 1990s remarkable change and development in the environment policies, laws and institutional framework reforms. With the funding from the World Bank and other development partners, the National Environment Action Project (NEAP) embarked on a holistic review of policies, legislation and institutional mandate of all sectors concerned with the management of the environment. According to the RTDA (2006:55), specific reforms in Tanzania include the following outputs: The National Land Policy (1996); The National Sustainable Industrial Development Policy (1996); The National Water Policy (2002); The National Investment Promotion Policy (1996); The National Energy Policy (1992); Forest Policy Act (1998); Mineral Policy of Tanzania (1997); National Agriculture and Livestock Policy (1997); National Human Settlements Development Policy (2000); The Tourism Master Plan (1996-2005); The National Tourism Policy (1999); Wildlife Policy (1998); The Mining Act No. 5 of 1998; The Economic Processing Zone – EPZ (2005); The National Forest Act (2002); and National Environmental Management Act (2004).

Rwanda

Rwanda has undertaken different measures to institutionalise the sustainable use and management of the resources of the LVB. They include:

Kagera Basin Organisation - KBO

The creation of Kagera Basin Organisation in cooperation with both Tanzania and Burundi. This Basin is part and parcel of Lake Victoria Basin. Currently KBO is dormant.

Nile Transboundary Environmental Action Project - NTEAP

The establishment and operationalisation of 13 projects under the auspices of Micro-Grants in the Nile Transboundary Environmental Action Project (NTEAP). These projects are localised in the LVB.

Decentralisation Policy (2003)

Initiation of Decentralisation Policy (2003) sparked the movement of responsibilities to the Local Government. The implementation of this policy ensures the equity distribution of financial resources to the respective districts for sustainable use and management of activities in the LVB, among others.

Akagera Integrated Water Resource Management Project – Akagera IWRMP

The Akagera IWRM Project hosted by Rwanda, is charged with the responsibility of effective utilization of waters of the Akagera River.

Integrated Management of Critical Ecosystems

The initiation of Integrated Management of Critical Ecosystems that includes; Rugezi Wetlands, Rweru Mugesera and Akagera River.

Integrated Ecosystem Assessment in Bugesera

The pilot Project on Integrated Ecosystem Assessment in Bugesera region. The success of this project would trigger the implementation of this project in the whole country.

Poverty Environmental Project

Poverty Environmental Project funded jointly by UNEP and UNDP in the Framework of mainstreaming environment into national development programmes including Economic Development and Poverty Reduction Strategy (EDPRS).

Kigali Industrial Environmental Management Project

Kigali Industrial Environmental Management Project is funded by the UN-Habitat/ UNEP/UNDP, with the aim of rehabilitating Gikondo Industrial Wetland and introduction of Cleaner Production Mechanism.

Other initiatives

Other initiatives include a project on High Intensive Labour of Public works (HIMO); active participation in the NELSAP activities and hosting its headquarters the signing of Protocol with the EAC and of equal importance the active participation in the preparation of LVEMP-2.

Major policy and legal reforms

Major Policy and Legal reforms in Rwanda have led to the preparation of a wide range of frameworks for sustainable use of LVB resources, like: The National environment Policy (2003); The National Land Policy (2004); The National Forest Policy (2004);The National Water and Sanitation Policy (2004); The National Energy Policy (2004); The National Habitat Policy (2003); The national Tourism Policy (2006); Organic Law for Protection, Conservation and Promotion of Environment in Rwanda (2005); Law on Water and Sanitation (now in parliament); Organic Law on Use and Management of Land in Rwanda (2005); Law in

Determining the Organisation, Functioning and Responsibilities of Rwanda Environment Management Authority – REMA (2006); and Mining and Quarry Exploitation (now in parliament).

Burundi

The fundamental causes of environmental pollution in Burundi's Lake Victoria ecological Basin can be largely attributed to demographic pressure and poverty of the population and insufficiencies of political, legal and institutional nature The NTDA Burundi (2006), reveals that very little has been done with regards to country-driven reforms because; among others, the socio-policy crisis that Burundi underwent since the 1990s generated relaxation of the political leaders in management and the conservation of natural resources.

The RTDA (2006: 57) further points out that except Burundi, the other riparian states had been reforming their policies and laws since early 1990s. Almost all laws relevant for the management of the LVB in Burundi are outdated (*Ibid*, 57).

Recent policy and legal reforms in Burundi have been confined to:

i. Preparation of National Environmental Plan;
ii. Forestry Policy;
iii. Land Policy;
iv. Waste Water Management Policy, and,
v. Organic Law on environmental Management**.**

Uganda

Most policy and legal reforms in Uganda have been holistically carried out in the manner they are conducted in Tanzania and Kenya. Specific results of reforms have been: Water Act (1995); Uganda Wildlife Act (1996); Land Act (1998); The Animal Breeding Act (2001); The National Forestry and Tree Planting Act (?); Forest Reserve (Declaration) Order (1998); Town and Country Planning (Declaration of Planning Areas) Order (1998); Water Resources Regulations (1998); EIA Regulations (1998); Water (Waste Discharge) Regulations (1998); National Environment (Waste Management) Regulations (1999); National Environment (Delegation of Waste Discharge Functions) Instruments (1999); National Environment (Standards for Discharge of Effluent into Water or on Land) Regulations (1999); Mining Act (2003); National Environment (Wetlands, River Banks and Lake Shores Management) Regulations (2000); National Environment (Hilly and Mountainous Area Management of Soil Quality) Regulations (2001); Fish (Quality Assurance) Rules (1998); Fish Inspection Health Certificates (1998); Fish (Beach Management) Rules (2003); and Fisheries Bill (2005).

Kenya

Like in Tanzania, the policy and legal reforms in Kenya were part of the 1990s remarkable change and development in the environment policies, laws and institutional framework reforms. According to the RTDA (2006:56), specific reforms in Kenya have led to the following outputs:

i. National Policy on Water Resources Management (1999);
ii. National Population Policy for sustainable Development (2002);
iii. The Poverty Reduction Strategy Paper;
iv. Fisheries Act (1991);
v. The Environmental Management and Coordination Act (1999);
vi. The Quality Assurance Regulations (2000);

vii. Forestry Act (2005); and,
viii. Water Act (2002).

ANNEX 3 - STAKEHOLDER SETTING

General

Important for the present institutional and stakeholder settings and roles for management of Lake Victoria is the revival of cooperation under the auspices of the East African Community. The revival resulted in a number of milestones, namely:

(i) The EAC Development Strategy of 1997-2000, which designated LVB as an Economic Growth Zone in recognition of the economic potential therein;
(ii) The commissioning of a study on institutional and legal framework for the management of the LVB in 1999, which culminated in the establishment of the Lake Victoria Development Program Unit at EAC Secretariat;
(iii) The signing of the Treaty Establishing EAC, on 30th November 1999, which provided the legal basis for the establishment of a body to manage LVB (Article 114, of the Treaty);
(iv) The commissioning of a study on Economic Potentials and Constraints in the LVB in 2000 to provide a conceptual basis for developing a strategy for the Basin,
(v) The signing in, April 2001, of the Partnership Agreement between EAC and Development Partners and the establishment of the Partnership Consultative Committee to guide future interventions in the Basin; and,
(vi) The development of a Protocol for Sustainable Development of LVB, signed on 29th November 2003 by the EAC Partner States.

The overall institutional setting and mandates for the management and development of the Lake Victoria Basin is defined in the "Protocol for Sustainable Development of LVB", signed on 29th November 2003.

Furthermore, the mandates of key regional organs are a complementary effort for addressing various issues in the LVB as follows:

(i) EAC Council of Ministries is the Policy Organ for the East African Community.
(ii) EAC Secretariat is the executive organ for the EAC;
(iii) The Lake Victoria Basin Commission (LVBC) is the EAC organ for ensuring sustainable development and management of the Lake Victoria Basin and the lead agency for the TDA and SAP work. A secretariat with an Executive Secretary is the executive body for the Commission;
(iv) Lake Victoria Fisheries Organisation shall develop and manage fishery resources in the LV;
(v) LVEMP will implement interventions at national level that have been decided by the LVB Commission.

National institutions for management of the lake Basin are:

(i) Focal Point Ministry, Kenya – Ministry of Environment and Natural Resources.
(ii) Focal Point Ministry, Tanzania – Ministry of Water.
(iii) Focal Point Ministry, Uganda – Ministry of Water and Environment.
(iv) Focal Point Ministry, Rwanda – Ministry of Lands, Environment, Forestry, Water and Mines.
(v) Focal Point Ministry, Burundi – Ministry of Lands and Environment.

Regional Key Institutions

EAC and LVBC

The East African Community (EAC) is the regional intergovernmental organisation of the five Riparian States, Kenya, Uganda, Tanzania, Rwanda and Burundi with its Headquarters in Arusha, Tanzania. Its mandates and roles, as well as crucial milestones, have been described in the previous chapter. LVBC rests within this organisation. It is the key stakeholder of the SAP and the Client of the project.

LVEMP

The Lake Victoria Environmental Project is an initiative under EAC, with national secretariats situated in Kenya, Uganda and Tanzania. The extension of Phase 1 ended in December 2006. Phase 2 has, concurrently, been initiated. The overall goal of LVEMP is to introduce environmentally and socially sustainable economic development to the region while at the same time maintaining the rich biodiversity and resource base for the use of future generations. Its multi-sectoral approach covers 11different components over the Lake Victoria Basin comprising aspects of fisheries research and management, environmental issues, water quality and pollution control, land use and management, as well as institutional issues and capacity building.

LVFO

The Lake Victoria Fisheries Organisation (LVFO) is an institution under EAC based in Jinja, Uganda. The main objectives of the LVFO are to harmonise national measures for sustainable use of the lake's fisheries resources and to develop and adopt conservation and management measures accordingly. The Convention delineates a set of functions to achieve the overall objective, inter alia, to provide a forum for discussion of initiatives to deal with environmental conditions and water quality in the Lake Basin, to promote research with respect to the living resources of the lake, and to address problems of non-indigenous species.

NBI, NELSAP and NTEAP

The Council of Ministers of Water Affairs of the Nile Basin States, formally launched the Nile Basin Initiative (NBI), in February 1999. The Initiative provides a forum for the countries of the Nile to move forward a cooperative process to realize tangible benefits in the Basin and build a solid foundation of trust and confidence.

The NBI constitutes the Nile – COM (Nile Council of Ministers) that serves as the highest decision-making body of the NBI. The Nile - COM is supported by Nile – TAC (Nile Technical Advisory), which is composed of two senior officials from each member country. The NBI further maintains a secretariat, the Nile – SEC (The Nile Basin Initiative Secretariat), located in Entebbe, Uganda.

Important subsidiary initiatives within the NBI pertaining issues of relevance for the SAP are:

a. The Nile Equatorial Lakes Subsidiary Action Program (NELSAP) oversees implementation of the jointly identified Strategic Action Programme and promotes cooperative inter-country and in country investment projects related to the common use of the Nile Basin water resources

b. The Nile Transboundary Environmental Action Programme (NTEAP) is the largest project in the NBI - Shared Vision Program. It provides a strategic framework for environmentally sustainable development of the Nile River Basin and support Basin wide environmental action linked to transboundary issues in the context of the NBI Strategic Action Program.

Regional NGO's and Knowledge Centers

The World Conservation Union (IUCN) has a regional office for Eastern Africa, in Nairobi, Kenya, which is supported by country offices in Uganda and Tanzania. Together with WWF, IUCN is the most influential regional environmental NGO in the Basin. It has various thematic areas of work (wetlands and water resources, drylands, forest and woodlands e.g.) but it also undertakes social policy studies and supports local environmental NGO's.

The World Wildlife Fund (WWF) has its regional office in Nairobi, Kenya. Through its Eastern Africa Regional Programme Office (EARPO), it oversees the WWF work in the five Basin states. Its main focus is wildlife management and conservation including awareness, outreach and education.

The World Agro-forestry Centre (ICRAF), which has its regional office in Nairobi, Kenya, promotes the use of trees and tree-based technologies on farms and agricultural landscapes, coupled with improved policies and institutional innovations, to make significant contribution towards alleviating poverty and improving food security and environmental conservation.

African Center for Technology Studies (ACTS) is a Nairobi-based international intergovernmental science, technology and environmental policy think-tank that generates and disseminates new knowledge through policy analysis, capacity building and outreach.

The Inter-University Council for East Africa (IUCEA) is a regional inter-governmental organisation whose mission is to encourage and develop mutually beneficial collaboration between Universities in East Africa, and between them and governments and other organisations, both public and private. It is one of the autonomous institutions of EAC. The IUCEA, through *Lake Victoria Research (VicRes) Initiative,* is supporting staff of Universities to undertake research on poverty reduction and environmental restoration.

The Network of Environmental Journalist for Lake Victoria has membership in the three EAC Partner States. Its mandate includes enabling media to promote accurate presentation of facts and exchange of information about the Lake and its environment. It is central in influencing policy by empowering and linking different players in natural resource management - local, national and regional levels.

Both the VicRes and the Network of Journalist can enhance awareness on environmental issues and impending environmental impacts.

ECOVIC *is an* NGO that supports initiatives geared towards the improvement of the environment including awareness creation and advocacy.

LVRLAC, *w*ith its headquarters in Entebbe, Uganda, has a national coordinating Office and serves as an umbrella organization for Local Authorities around Lake Victoria. It facilitates dialogue on sustainable development of urban centres around the Lake.

Major Donor Organisations relevant for the SAP

The World Bank, through **GEF,** is the financing institution for the national and regional TDA and SAP processes and thus the key donor stakeholder for this project. Besides WB central and coordinating role in supporting development and investment programs and projects in the region, like those through EAC including the LVEMP.

African Development Bank (AfDB) has had various activities and programs in the region. The relevant projects supported are infrastructure and agricultural projects, projects concerned with the upgrading of fish landings, fish markets and aquaculture facilities as well as Nile perch export requirements including provision to supply patrol boats.

The Commonwealth Secretariat has supported LVFO and collaborating national authorities in conducting a fisheries-human resources development programme involving a long-term post associated with the LVFO. This has been a lake-wide exercise and the Commonwealth Secretariat is likely to continue to fund the implementation of proposed activities for awareness building and training at the fishing community level.

Department For International Development (DFID) has amongst others been engaged in an integrated lake management projects in Uganda with the aim to involve local communities in the management of fishery resources as well as land reforms in Rwanda.

SIDA has for a long time supported development activities of direct relevance to the Lake Victoria Basin. Some of these include programs on health, sanitation, water management, education and outreach, amongst others. The SIDA initiative to the Partnership Agreement (SIDA 1999), which feeds directly into the Vision and SAP processes, was prepared to meet a need for a more co-ordinated and comprehensive approach to development support in the region.

NORAD has a long history as a major donor in Tanzania supporting activities in a broad range of sectors as well as in specific regions. Bilateral assistance to Kenya was terminated in the 1980s and just recently resumed in Uganda. On the regional scale, NORAD has been funding the Lake Victoria Vision Statement Facilitation Project, and now the TDA/SAP processes together with SIDA and the EC.

National Key Institutions

Uganda

Ministry of Works, Transport and Communication is in charge of infrastructural development, regulates transport and navigation on Lake Victoria, promotion of sector reforms.

Ministry of Health is responsible for monitoring diseases prevalence and transboundary control including HIV/AIDS Control in LVB, sector reforms and disease surveillance.

Ministry of Trade, Tourism and Industry is responsible for promotion of tourism and trade and responsible for legislation and sector reforms.

Ministry of Water and Environment: The National Focal Point Institution (Coordination and Linkage), together with being in charge of policy on natural resource management, promotion of policy and legislation reforms.

Ministry of Internal Affairs is responsible for security in the Lake and Immigration issues.

Ministry of Energy and Mineral Development is responsible for generation of energy e.g. controls generation of hydropower at Jinja.

Ministry of Finance and Economic Planning is responsible for budgetary allocation and prioritization of projects.

Ministry of Local Government is responsible for involving Local Authorities in transforming and implementing national and regional programmes at national level.

NEMA is the national institution responsible for coordination, supervision and monitoring environmental matters around the Lake, and enforcement of laws and regulations.

Makerere University is the lead national University with capacity to spearhead research. Staff has been actively engaged in various initiatives such as policy dialogue, generation of information and data through LVEMP and VicRes.

Private Sector Foundation, the Umbrella organization for Private Sector, supports private sector initiatives and advocates for collaboration with various other actors.

Uganda Fish Processors Association is an. Association for fish processors that is a major stakeholder has membership of both local and international fish traders.

Uganda Lake Rescue is an NGO involved in training and participation in Lake Rescue.

Kenya

In Kenya the list of national stakeholders is very large and has, therefore, been clustered into groups related to functions.

Research Institutions: Kenya Forestry Research Institute (KEFRI), Kenya Agricultural Research Institute (KARI), Kenya Medical Research Institute (KEMRI), Kenya Marine and Fisheries Research Institute (KMFRI) and Tea Research Foundation. These are key institution that conduct research in their respective sector within the Basin. Their main areas include bio-technological innovations (KARI), health (KEMRI) and natural resource management (all) except KEMRI and monitoring and early warning systems for sustainable development.

Moi University and University of Nairobi **:** are the lead national University with capacity to spearhead research. The staff has been actively engaged in various initiatives such as policy dialogue, generation of information and data through LVEMP, LVFO and VicRes.

Regional Development Authorities - Lake Basin Development Authority (LBDA) - main functions include fostering development in a broad sense within the Kenya part of Lake Victoria Basin. Its focus has been on development of wetland products.

NGOs: - OSIENALA, locally known as 'Friends of Lake Victoria, it focuses on supporting local initiatives aimed at improving community livelihoods and enhancing the ecological integrity of the Basin. Other relevant NGOs working in the Basin on areas of community livelihoods improvement and environmental conservation include ADRA-Kenya, Vanilla Development Foundation, Pact-Kenya, Care-Kenya, Action Aid, Science Products Centre - promotion of small scale environmentally friendly enterprises.

Government Parastatals: - key Government Parastatals operating within the Basin other than regional development authorities include KenGen for generating energy, National Environment Management Authority (NEMA) - an environmental regulatory institution.

Beach Management Units (BMU): - these are local organizations established to enhance effective management of the beaches.

Water Management Institutions - e.g., Lake Victoria South Water Services Board (LVSWSB), Kisumu Water Services Company (KIWASCO) - charged with the responsibility of promoting effective and efficient water resources management and distribution.

The Private Sector - Pan African Paper Mills, Muhoroni Agro-chemical industries, Rai Ply and Tea Companies that are involved in the development and exploitation of natural resources.

The Local Authorities and relevant Ministries - Agriculture, Livestock and Fisheries Development, Water and Irrigation, Energy, Lands. – charged with legislation and sector policy development.

Tanzania

Ministry of Water is the National Focal Point Institution (Coordination and Linkage), and also in charge of policy on water resources management, promotion of policy and legislation reforms.

Ministry of Natural Resources & Tourism is in charge of natural resources covering forestry, beekeeping, fisheries and tourism. Formulates policies and legislation.

Ministry of Agriculture, Food Security and Cooperatives is in charge of agriculture and ensures food security as well as being responsible for cooperative societies.
Vice President's Office is in charge of policy formulation in environmental issues.

NEMC is the national institution responsible for coordination, supervision and monitoring environmental matters around the Lake, and enforcement of laws and regulations.

Ministry of Infrastructure Development –is in charge of infrastructural development, regulates transport and navigation on Lake Victoria, promotion of sector reforms.

Ministry of Health and Social Welfares - Diseases prevalence and trans-boundary control inc. HIV/AIDS Control in LVB, sector reforms and disease surveillance.

TAFIRI is the national Fisheries Research Institute involved in conducting research on fish in lakes and sea.

University of Dar es Salaam is the lead national University with capacity to spearhead research. Its staff has been actively engaged in various initiatives such as policy dialogue, generation of information and data through LVEMP and VicRes.

ECOVIC is an NGO supporting initiatives geared towards the improvement of the environment including awareness creation and advocacy.

LANESO is an NGO supporting initiatives geared towards the improvement of the environment including awareness creation and advocacy.

Rwanda

Ministry of Infrastructure, Energy and Communication is in charge of infrastructural development, regulates transport, energy, telecommunication and communication, promotion of sector reforms.

Ministry of Health is responsible for diseases prevalence and trans-boundary control incl. HIV/AIDS Control, sector reforms and disease surveillance.

Ministry of Trade, Tourism, Industry and Cooperative deals with Promotion of; trade, tourism, cooperative and responsible for legislation and sector reforms.

Ministry of Land, Environment, Forestry, Water and Mines is the National Focal Point Institution for LVEMP 2 (coordination and linkage), and in charge of policy formulation, legislation and monitoring and evaluation on natural resource management, promotion of sector reforms.

Ministry of Internal Affairs is responsible for; security in the country, immigration and prison issues, responsible policy, legislation and promotion of sector reforms.

Ministry of Local Government, Good Governance, Social welfare and Community Development is responsible for Local Government, governance, social welfare and community development.

Ministry of Finance and Economic Planning is responsible for budget and national development programmes and plans.

Ministry of External Affairs and Cooperation is responsible international relations and external cooperation.

REMA: National institution responsible for coordination, supervision and monitoring environmental, and enforcement of laws and regulations

Rwanda Investment &Export Promotion Agency (RIEPA): National institution responsible for investment development and export promotion.

Rwanda Bureau of Standard (RBS): National institution responsible for quality of goods and standards.

National University of Rwanda: National University with capacity to spearhead research. and generation of information and data through GIS/Remote Sensing tools.

Kigali Institute of Science and Technology: National institute with capacity to spearhead research, and generation of information on innovation and Technology

Umbrella organization for Private Sector – supports private sector initiatives and advocates for collaboration with various other actors.

*National institution for tourism and National Parks (ORTPN)***.** National institution responsible for supervision and promotion of tourism and National parks.

Institute of Scientific and Agricultural Research: National institution responsible for Scientific and Agricultural research.

Rwanda Agricultural Development Agency: National institution responsible for Agricultural development

Burundi

BBN - Bureau Burundais de Normalisation.

BRB- Banque de la République du Burundi.

CCI - Chambre du Commerce et de l'Industrie du Burundi.

DG ATE - Direction Générale de l'Aménagement du Territoire et de l'Environnement.

ETP - Ecole des Travaux Publics de Gitega.

IGEBU - Institut Géographique du Burundi.

INECN - Institut National pour l'Environnement et la Conservation de la Nature.

MAE - Ministère de l'Agriculture et de l'Elevage.

MCIT - Ministère du Commerce, de l'Industrie et du Tourisme.

MDC - Ministère du Développement Communal.

MEM - Ministère de l'Energie et des Mines.

MINATE - Ministère de l'Aménagement du Territoire et de l'Environnement.

MSP - Ministère de la Santé Publique.

MTPE - Ministère des Travaux Publics et de l'Equipement.

ODEB - Organisation pour la Défense de l'Environnement au Burundi.

ONAPHA - Office National Pharmaceutique.

Regideso - Régie de Distribution de l'Electricité et des Eaux.

SETEMU - Services Techniques Municipaux.

UB - Université du Burundi.

Current Management Coordination Relevant for Institutional Setting

Institutional frameworks affecting the Lake Basin ecosystems, social and economic development, span multiple scales and dimensions. The issues at stake are harmonisation of policies, laws and regulations, decentralisation and devolution of power, public participation and the role local authorities and civil society, and the establishment of mechanisms for conflict resolution.

Many barriers to sustainable development of the lake Basin result from the fact that national institutions policies and legal framework in the partner states are at variance and in need of harmonisation. Although regional policies, regulations and initiatives are gradually being built under the framework of the EAC Treaty, lack of regional co-operation is still a bottleneck for socio-economic development and effective resource management.. Under the various policy areas many examples are given of policy issues in need of transboundary harmonisation and co-ordination. Steps are taken, by the EAC, to

address the question of legal harmonisation based on an overall set of guiding principles for mutual harmonisation of laws and regulations in the partner states:

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1. The EAC Treaty, global conventions, international treaties and regional agreements signed by the EAC partner states, although often limited in scope and range, as well as proven slow in implementation, should form the background for harmonisation of laws and regulations;
2. The harmonisation of institutional roles, policies, laws and regulations should be based on the principles of sustainable use and management of natural resources, prevention of environmental harmful impacts, good governance, gender equality and equitable distribution of opportunities and benefits;
3. Environmental laws and regulations are a priority area to be harmonised, including policies and laws on resource management, environmental protection, agriculture, fisheries and procedures for resolution of disputes.

The EAC study on *Institutional Framework for Sustainable Development of the Lake Basin* more specifically lists 10 different policy areas in need of legal and institutional harmonisation. Five of these relate to environmental management and the protection, utilisation and management of natural resources (water, fisheries, agriculture/ forestry/land use and wildlife). Existing regional institutions such as the Lake Victoria Fisheries Organisation (LVFO) and the Lake Victoria Environment Management Project (LVEMP) have been placed under the control of EAC. Other areas cover laws regulating economic development and infrastructure (primarily industry, trade, transport and energy sectors). Additional important areas for policy development and legal harmonisation are public health, mutual security and safety, and institutional development and capacity building, including research activities.

The Protocol for Sustainable Development of Lake Victoria Basin proposed the establishment of a Lake Victoria Basin Commission. This is now operational and isresponsible for the provision of overall policy directions and guidance for thepromotion and implementation of development projects and programmes in the lakeBasin (including LVFO and LVEMP). Resource management in the lake Basin is guided by a set of overall principles that can be summarised in four groups of thatcut across all areas of policy development:

a. The principle of sustainable development, including the precautionary principle;
b. Principles for sound water resource management; i.e. emphasising water resources as unitary systems, water as a social and economic good, equitable and reasonable utilisation of water, and the protection and conservation of water resources as shared international ecosystems;
c. Principles and policy guidelines for environmental protection based on the principles of preventing harm and giving prior notification of planned measures, the Polluter Pays Principle (PPP), and the introduction of systems of Environmental Impact Assessment and Audit; and,
d. Principles of Good Governance including the principle of subsidiarity, public participation and gender equality

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ANNEX 4 - CONFLICT MANAGEMENT NEEDS AND RESOLUTION

Conflict awareness and mechanisms for conflict resolution

The case of adopting shared visions and implementing strategic actions for sustainable development of the Lake Basin will, to a large extent, centre around the ability and capacity of the partner states to manage conflicts among a wide range of stakeholder interests. Latent as well as manifest conflicts are apparent in several areas and at different scales.

Territorial conflicts are manifest as unresolved disputes over international borders in parts of the Lake Basin and claims to sovereignty and ownership over certain parts of the Lake. The background is primarily one of conflict over access to resources, in particular fish. It is claimed that the distribution of fishermen, gear and catches does not tally with each country's share of the lake. Conflicts are still occurring long after the harmonisation of fishing laws and the existence of mechanisms within EAC for dispute resolution.

Conflicts, between different users of natural resources, pertain to the question of access to and utilisation of resources. Typical examples are conflicts following the negative effects on artisan fishing by the gradual take-over of the commercial fishing industry and conflict over land use and access to land, e.g., conflicts between farmers and livestock keepers in situations of agriculture expanding into areas traditionally used for grazing. Also protection of nature conservation areas and wildlife has repercussions on primary users as evident in the (often perceived) conflict between conservation and utilisation. However, situations of scarcity are often local and not necessarily considered a national problem or have a transboundary nature. The effect of local or national conflicts can, however, have transboundary effects, the most extreme found in the Rwanda genocide in 1994.

Furthermore, *Mechanisms and institutions for allocation of resources* may be a source of conflict as observed in the issue of local natural resource management where local communities want management and control of natural resources to be entrusted in institutions at local level.

The Nature and Types of Conflicts in LVB

The underlying actual and potential sources of conflict in the Lake Victoria Basin can be summarised as follows:

a. Proximity and key role in the generically unstable Nile Basin,
b. Poverty and high level of economic marginalisation in an increasingly export driven economy,
c. Increasing demand (due to e.g. urbanisation, and population growth) on decreasing natural resources (due to unsustainable resource practices and management regimes),
d. Low institutional capacity in a context of high social demand,
e. Inconclusive processes of democratisation, lack of legitimacy and trust
f. High level of corruption,
g. High level of domestic violence and civil strife.

A possible future conflict configuration in Lake Victoria and its environs is thus multidimensional and compounded by a number of different sources of conflict. These different and possible sources of conflict can be divided into five categories, which are conducive to understanding the conflict complex.

1. Direct conflicts (e.g. Burundi, North Uganda).

2. Structural conflicts; which also could be expressed in terms of poverty and social stratification. However, in talking about structural violence, one can highlight the protracted expressions of poverty, and the special risks that may appear in a conflict perspective, if poverty in a society is perceived as differentiated and below social expectations.
3. Deficient democratisation, governance, legitimacy and state building.
4. Challenges from asymmetric regional integration.
5. Cognitive interpretations and perceptions of historical and current developments. This includes productions of 'knowledge and identities".

The Potential Patterns and Configuration of Natural Resource Conflicts

The Classification of Conflict Contexts

From the conceptual perspective a resource-defined ecosystem (RDE), such as Lake Victoria and its Basin, is inevitably the home of hundreds of "parties" (or stakeholders) with their various interests, perceptions, and inter-relationships. These can be categorized, depending on the organizational factor chosen, into a number of contexts in which distinctive types of conflicts might occur. They can be:

i. Sovereign and lawful owners,
ii. Users,
iii. Allocaters,
iv. Disrupters,
v. Observers,
vi. Facilitators,
vii. Social factors and forces, and,
viii. Impersonal forces, essentially the workings of time

Sovereign and lawful owners

The potential exists for conflict among the three East African states and Rwanda and Burundi, but more so between Uganda and Kenya, based on claims to sovereignty and ownership over certain portions of Lake Victoria. But, rather than potential conflict over sovereignty per se, the reality is of conflict over access to *primary* lake resources, in particular fishing.

Users

Conflicts arising over sovereignty and legal ownership shades almost imperceptibly and gradually merges into conflict pertaining to access and usage. The most common, and, therefore, obvious instances of conflict involve what has been aptly termed "conflicting user interests". It is useful to refine this formulation further by thinking in terms of primary, secondary, and tertiary users based on the nature of use and *degree of indispensability* of Lake Victoria itself in that use. The significant thing in clarifying this categorization is the seemingly obvious fact that *no user is actually domiciled on the lake itself*.

It becomes possible to talk of the tertiary user as that user whose core activities would be only marginally affected were the lake to suddenly disappear. Farmers, stone quarries, timber harvesters and others fall in this category. Secondary users would undergo a crisis in that circumstance, but could ultimately find alternative means of carrying on with the core activity in question. The city, which used to draw water from and discharge waste into the lake, would have to find alternative means of waste disposal or alternative sources of water. None of these is logically impossible. But the fisherfolk, transporters, and water recreational practitioners would have no alternatives but to relocate. These are the primary users. It is

obvious that the three broad types of users are among themselves potentially *conflictual*, since they have different core interest types.

Allocators

Whether by custom and tradition, legislation and institutionalization, market forces, or by default, the mix of systems active in the allocation of natural resource values to its constituencies with divergent interests is itself a source of conflicts.

Water-related activities are often positioned within specific sectors (water supply and sanitation, agriculture and irrigation/drainage, hydropower and industry, fisheries and recreation, environment, etc.) and managed by sector-based institutions and subject to their specific objectives and interests. As a consequence, the management of water as a finite renewable resource tends to become lost within sector interests.

Institutional frameworks affecting the Lake Basin ecosystems span multiple scales and dimensions. Institutions are directly involved in shaping the driving forces, management, policy-formulation and coordination of human impact over the whole Basin. At national level there are institutional issues broadly involving village- and ward level, district, provincial/regional, and national scales as well as commercial, subsistence, civic and regulatory interests.

Transboundary issues include institutional relations between the riparian countries, both in terms of policy harmonization and institutional co-ordination, as well as those stemming from specific downstream externalities like water requirements, pollution or habitat and biodiversity loss. Other macro-level institutional issues relate to the perspectives, priorities and interventions of donor agencies and multilateral development organizations.

Disrupters

A distinction needs to be made between “bona fide” users whose interests, athough often conflicting, are intrinsic to their integral placement within the ecosystem as against those who, though they are users, have interests that are not only conflictual but also logically irreconcilable with those of the former. Perhaps the biggest and most debilitating sources of disruption are the numerous armed conflicts around the Great Lakes of eastern and central Africa. Lake Victoria and its Basin are a part of this region and suffer all the negative impacts of these conflicts, including small arms and narcotic drug trafficking.

Observers

Under this category fall such groups as scientists, environmentalists and conservationists. They do not have direct interests (similar to the other users) to be satisfied by the ecosystem. They nevertheless have interests that can come into conflict with those of a myriad of users. Many types of production and use activities in the Basin can easily come into conflict with scientific research.

Facilitators

Under this title can be placed development partners, international lending institution, foundations, and Non-governmental organizations that see their activities as geared to objectively promoting the best use of the resources in question. It is of course true that some, far from striving for objectivity, have blatant partisan interests to promote. Nevertheless, objective or partisan, their interests cannot help but come into conflict with those of others. The sheer number of observers, facilitators, initiatives and projects dealing with the lake and

the Basin is itself a source of potential conflict and many tend to work at cross-purpose from one another.

Social Factors and Forces

Social factors and forces are potentially very potent in generating (but also in facilitating the management of) conflicts. Among the factors and forces that need to paid attention to are the following.

Demographics

In the long-term, this is one of the most powerful sets of factors in social change and, therefore, in generating conflict. It covers such things as the structure and health of the population, migration, and immigration.

The Poverty Divide

A familiar point of debate over environmental conflict is the issue of the role of poverty and the poor in environmental degradation. Conversely, a major concern is the impact of dwindling natural resource on the poor. One aspect that is usually ignored is its implications for *governance* in terms of the direct bearing of poverty on social strife and civil unrest in the region, with consequences for whole populations.

The Political Power Divide

It is often forgotten that value allocation, including natural resource-based values, is always a *political* process. The neglect explains why emphasis is often on *management* defined in narrowly in technical terms. In the end, however, it matters immensely who has and who has not the political power to make the necessary decisions. The fault line between the politically powerful and politically weak is always a line of conflict.

Globalization

The impact of changing lifestyles driven by globalization has implications for social conflict.

Ideological Orientations and Beliefs

Tensions and the potential for conflict always exist between the two basic ideological orientations: on the one hand, those who believe in free market ideology; and, on the other, those who emphasize collective ownership of “the commons”.

The Human/ Nature Divide

Natural species (including human kind) are ever in a state of cooperation and conflict, as seen, for example, in the concept of food chain. For the Lake Victoria Basin human/wildlife conflict is pervasive and has to be addressed on a continuing basis.

Recommendations for Conflict Management and Resolution in LVB

To what degree should the SAP deal with conflicts in the region? To undertake sustainable management of the LVB there should be a strong commitment during the implementation of the SAP to work with (potential) conflicts. However, albeit that there are no ongoing armed conflicts directly linked to the activities carried out within the SAP, the context in which it will be implemented can potentially suffer from a number of violent and non-violent conflicts. Thus, the concrete challenge is how the SAP can play a role in the region, contributing to a continuous decrease in various forms of conflicts taking place in the region as a whole, and developing its strategic activities in such a way that it can contribute to conflict prevention and a peaceful regional integration. Although the SAP is focused on the prioritised Key Transboundary Issues, its conflict resolution context should go wider. *Thus, an over-arching principle for the SAP should be to prevent conflict related to the issues reported in 12.2, but with focus on structural related conflicts and conflicts related to inappropriate governance and institutions. The main aim should be to decrease these types of conflicts and prevent them to escalate into further direct conflicts in the region.*

Thus recommendations for conflict management are as follows:

1. Enlargement of EAC to include Rwanda and Burundi, and strengthening of the regional conflict management mechanisms within EAC in order for it to play a more proactive role in regional conflicts,
2. Monitoring and discuss at policy level use of the natural resource base that have the potential to escalate into direct conflicts,.
3. Monitor the social developments around the shores, with a specific focus on biased welfare distribution between different territories and social groups,
4. Facilitate the development of infrastructure projects that integrates impoverished and marginalised regions, as well as facilitates cross-border exchange in the region in order to establish a regional market economy,
5. Social stability, conflict prevention and peace building are goals that should be taken into account in the application of the subsidiarity principle. The benefits and alternative costs for regional cooperation should be operationalised, e.g. though specific indicators, in order to determine the value added of transferring activities between the local, national, and regional level. Particular attention should be paid to which groups stand to gain/lose from a specific policy change, as well as the conflict potential of these groups. In addition, the effects of mechanisms and institutions for democratic accountability should be included,
6. Tilting and national coordination should be main instruments in implementation of a subsidiarity principle,
7. Institutional support throughout the Basin States. This includes; (i) capacity building of EAC institutions given their regional coordination role; (ii) facilitation of networks in the Basin to interact, develop and share experiences; (iii) support cross-sector and national initiatives for harmonization,
8. Strengthening of regional research institutions and programes,
9. Extended support to civil society and their regional interaction, including regional media institutions,
10. Enhancement of the sustainable development by for example; (i) encourage economic activities that can attach economic values to ecosystem services and biodiversity; (ii) encourage and support activities of local and regional eco-entrepreneurs; (iii) Harmonize and support the fisheries sector.

Annex 5 - Framework for Training Course and Awareness Campaigns

General

The SAP and TDA processes are integral, and a training framework will need to cover the SAP and the TDA, separately, and another covering aspects of the understanding the interaction between the two. This implies that the budgeting for operationalisation of the interventions for each KTI, if applicable, must encompass costing of the training components built there in.

Chapter 2, Section 2.2, underlines, among others, the threats to wetland, aquatic and terrestrial ecosystems including the Basin-wide causes for these threats. Some of the causes that justify training needs include institutional and capacity constraints, inadequate awareness, limited awareness to relevant information and participation of stakeholders. Furthermore, the training framework is designed as an integral part of the existing training frameworks of relevance not only to LVEMP II, but also to LVEMP I and the Nile Basin Initiative whose value need not to be emphasised. It is envisaged that the training framework will be two fold: First, *applied training* and secondly, *environmental education and awareness*.

Applied Training and Environmental Education and Awareness

In consonance with the identified causes of the ecosystem threats in LVB, applied training needs should focus on strengthening institutional capacity in selected KTIs in both public and private sector, community groups and creating or strengthening centres' capacity to develop and conduct programmes on continuous basis. This should be a long-term training for key staff including offering them an opportunity to pursue advanced degree programmes, attend training of trainer programmes, and strengthening links with Universities in order to nature Assistantship and visiting Professorships. If effectively brought into the networks, Universities and Research Institutions relevant to the identified KTIs will be able to coordinate programmes. The programmes should include environmental science, engineering, policy studies, foster exchange of students in KTIs related disciplines and development of researchers teams on KTIs. The programs should also develop a database as a result of regular environmental monitoring, GIS and dissemination to a wider audience of stakeholders. Besides training of core staff there will also be a need to involve a wider group of stakeholders in the SAP implementation and further process.

On the other hand, environmental education and awareness should aim at taking SAP to the stakeholders especially by enhancing public awareness and understanding, working closely with selected schools that are electronically networked and networking Universities and Research Institutions within the riparian states of LVB. Already, this is in place through either NBI or ViCres initiatives for most of the KTIs and thus what is needed for SAP is to find out the synergies and fill in the gaps by complementing such efforts. Besides enhancing awareness, understanding and networking, environmental education should target at deepening stakeholders interest in implementing the SAP. These include relevant government departments, educators and NGOs. Environmental education delivery mechanisms shall encompass nature initiatives, schools, the scout and environment movements and university modules; to mention but a few.

Purpose of a TDA/SAP courses

The production of a Transboundary Diagnostic Analysis (TDA) followed by a Strategic Action Plan (SAP) is a requirement of most projects proposed for financing in Ops 8 and 9 of the GEF International Focal Area. Thus, when the SAP is going to be implemented, there is a need for understanding these processes by the stakeholders, especially if receiving funding

through GEF. The LVB-SAP goes, however, wider than a traditional environmentally oriented GEF project. Therefore, due care has to be taken to this when tailoring a course. It is imperative to note that there are no formal guidelines from GEF in formulating these kinds of courses.

The aim of any training course should, therefore, be to create awareness with a view to introducing and building transboundary cooperation, enhancing knowledge on the nature of environmental inter-relatedness in the region and effects on communities. Training should also aim at building a core of human resources and strengthen the capabilities of individuals and institutions involved in TDA/SAP processes, as a means for a more effective implementation of the SAP, both at regional and local level. In short, it should help provide the necessary skills, information and approaches required to develop and implement a TDA/SAP.

Target Stakeholders for Training

The list of eligible stakeholders for training is long; however, it may consider the following:

- Government officials and technical staff;
- Facilitators;
- Consultants (regional/international);
- Project Managers/Chief Technical Advisors;
- Core project staff;
- TDA/SAP task team members;
- Steering Committee members;
- Inter-ministry committee members;
- Selected stakeholder representatives;
- NGOs;
- CBOs;
- Relevant government departments;
- Educators;
- Universities, education centres and research institutions; and
- Schools.

The various staff might have different technical background and capabilities and, therefore, a further analysis of this will help to tailor the training course.

Proposed Modules of a TDA/SAP Course

In short, the following module should be an integral part of a TDA/SAP training course:

1. Overview of the TDA/SAP process,
2. The Project Development Phase and Planning of the TDA/SAP,
3. Identification and prioritisation of transboundary issues and the determination of environmental and socio-economic effects,
4. Description of Causal Chain Analysis, and the links between major perceived problems and its root causes,
5. Definition of preliminary strategies/interventions to counteract sector behaviour and root causes,
6. Governance analysis,
7. Formulation of SAP: Development of Thematic Areas, Key Transboundary Issues, EcoQO's, targets, strategies, interventions and indicators,
8. Analysis, levels and participation approaches of stakeholders in TDA/SAP in formulation of projects and implementation,
9. Criteria for successful implementation of the SAP,
10. Institutional and capacity building,

11. Awareness creation methods and, and,
12. Communications and Information Dissemination methods.

Proposed Awareness Campaign through Communications and Information Dissemination

When the SAP information is available, for its implementation, the process by which it shall be disseminated to create awareness should be identified in detail. It is anticipated that the public information dissemination and the marketing of the SAP should take place by four means (but with emphasis on points (i) and (ii) below):

(i) *Radio Programmes:* In recognition of the limited access of rural and illiterate people to written material, media NGO's or consultants should be contacted within the Basin to make radio programmes with relevant information so as to create awareness and involvement in the SAP implementation process. These programmes should be short, targeted and aired frequently in the Basin area: Target group: Rural population and CBOs,

(ii) *Newsletters:* Should constitute simple and easy understandable information about the SAP implementation, and may be produced by the same organisations/people as above: Target group: NGO's and local authorities,

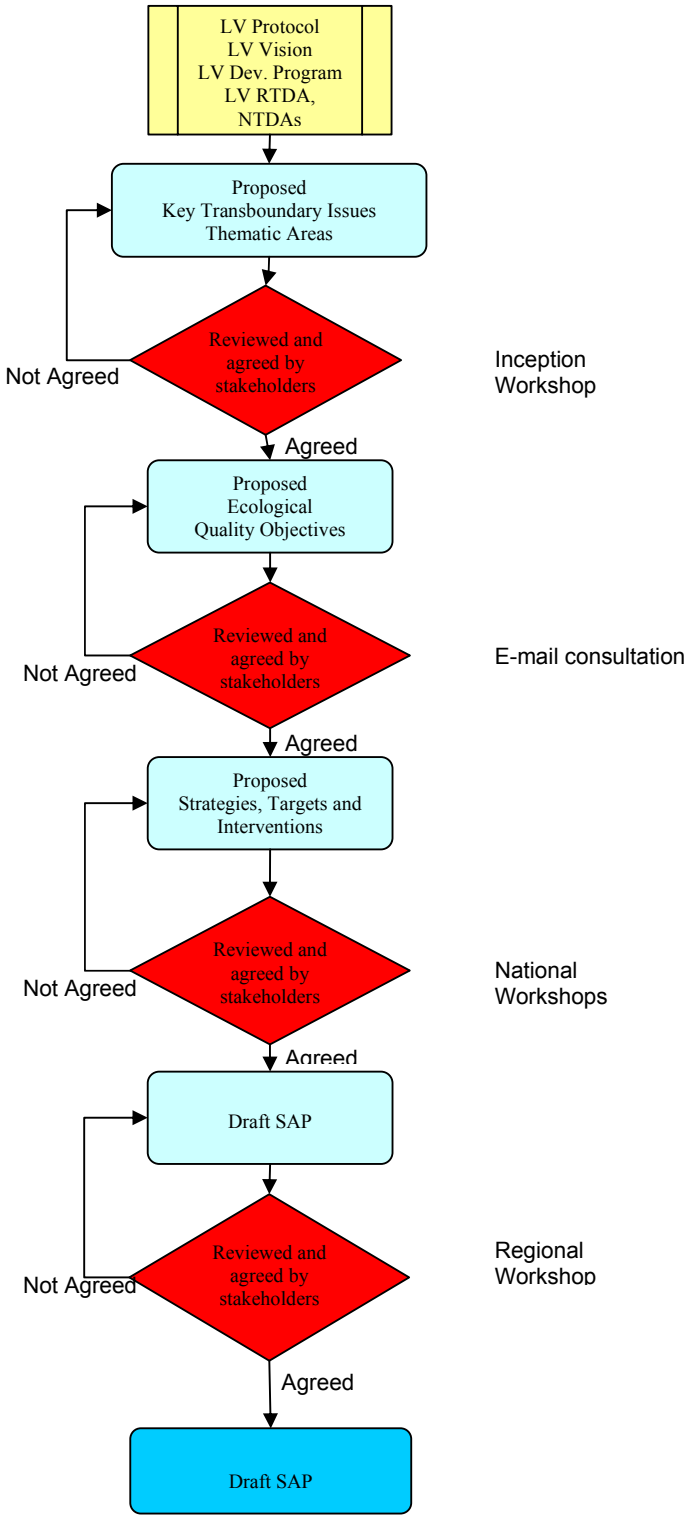
(iii) *Web information*: More comprehensive information about the TDA/SAP process including its principles and process. Either undertaken by EAC or EAC seconds it to an organisation as Environmental Journalists for Lake Victoria or alike: Target group: Other interested stakeholders, professionals and ministries,

(iv) *Project reports:* Provision of fully comprehensive reports. For the Academic Community and officials engaged in the Management of the Lake Basin.

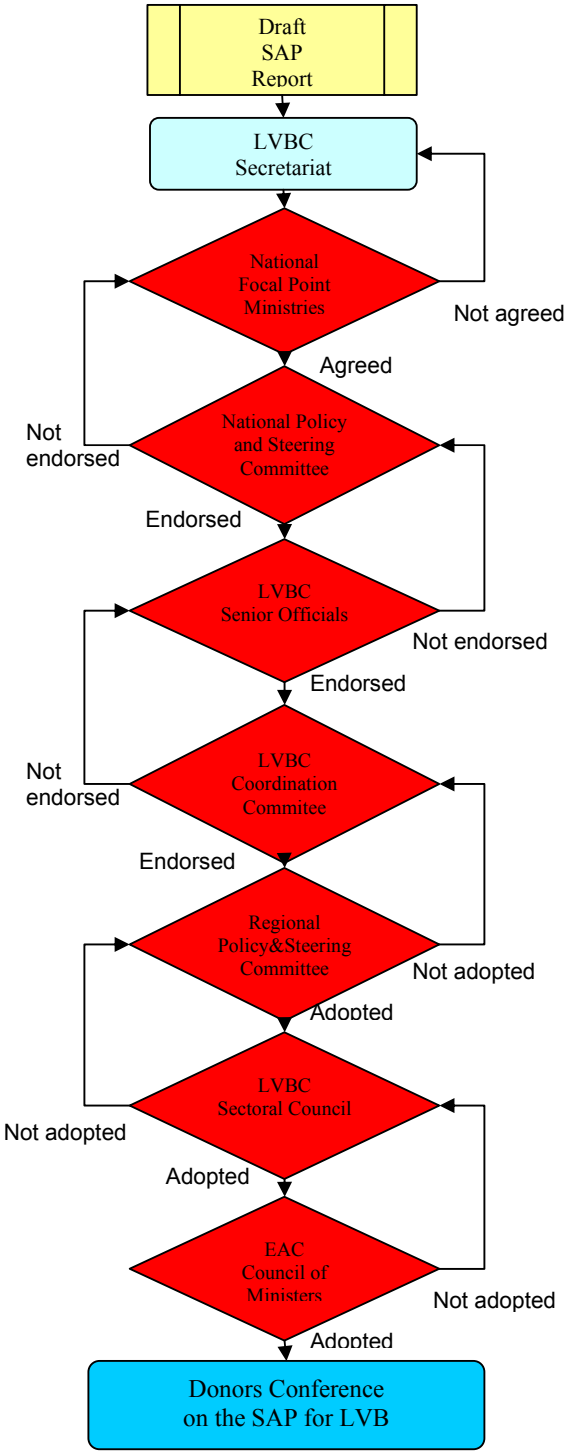
ANNEX 6 – DIAGRAMS, PRIORITIZED AND UN-PRIORITIZED KTI'S

Figure 1. The SAP Consultation Process with its major milestones.

Figure 2. Process of adoption by EAC



Annex 6 – Figure 1. The SAP Consultation Process with its major milestones.



Annex 6 – Figure 2. Process of adoption by EAC.

Prioritized Key Transboundary Issues

	KTI – 1
Thematic Area	Ecosystems, Natural Resources and Environment
Key Transboundary Issue	Land -, wetland - and forest degradation
EcoQO	Increased areas under forest and wetland ecosystems
Indicators	Process: Investments in land use-programs. Protection of forest, wetland and range land. Stress: New settlements in fragile ecosystems. Acreage of protected area. Total surface of LVB covered by forest, wetland and rangeland
Strategy 1	Integration and harmonization of forest and wetland management with spatial planning and IWRM
Targets	1. Aim at 10 % of total forest surface area of LVB covered by forests 2. 10 % coverage of wetlands in the LVB in 15 years 3. 5 % coverage of rangelands in the LVB in 15 years
Interventions	• Invest in re-forestation and afforestation programs • Invest in rehabilitation and restoration of degraded wetlands and rangelands • Mechanisms that promote efficient use and investment in farming methods and practices that reduce pressure on forest and wetlands-CR, Terracing, catchment, afforestation and agro-forestry • Promote and invest in farming methods and technologies that promote soil conservation and efficient use of agro-chemicals • Strengthen, harmonise, coordinate and implement land allocation system, land management practices and spatial planning • Enhancing community awareness and involvement in management of environmental and natural resources • Invest in energy saving technology and alternative energy sources • Introducing payment for environmental services, principles and promote investment in them – use of incentives and disincentives
Stakeholders role	• Central government – policy formulation and regulatory measures • Local Government – implement regulatory measures • Financial institutions – credit and loans provision for extension of sustainable forest and wetland management, including payment for ecosystem services • Private sector – users of ecosystem services, establishment of

	private forest • Local communities – environmental planning and service delivery (providers of ecosystem services) • Research institutions – promotion of forestry research and wood utilization technologies • NGOs – conduct awareness, empower and involve communities • NEMA/NEMC – Impact assessment and environmental audit

	KTI – 2
Thematic Area	Governance, Policies and institutional weaknesses
Key Transboundary Issue	Environmental governance, natural resource policy and institutional weaknesses
EcoQO	Harmonized, strengthened and implemented policies, legal and institutional frameworks, and improved environmental governance and community participation.
Indicators	Process: No. of initiatives pr country: Spatial plans, emphasizing governance and co-management for key environmental issues and natural resources Stress: State: Implemented harmonised laws and participatory plans in the countries
Strategy 1	Harmonize, strengthen, implement and enforce policies, legal and institutional framework for natural resource management and utilization across local and national borders
Target 1	Key policies, legal and institutional frameworks related to natural resources management and utilization harmonized and implemented in 5 years.
Strategy 2	Enhance environmental governance in spatial planning through networking, community participation, awareness building and education
Target 2	Spatial plans, emphasizing governance and co-management for key environmental issues and natural resources are prepared within 15 year
Interventions	• Strengthen laws, policies and regulations on local management • Strengthen the capacity of existing national and local institutions in natural resource management and utilization • Support active participation of people with emphasis on youth and women in development planning • Create guidelines, build awareness, build capacity for communities, educate people and establish programs for good environmental governance • Harmonize, implement and integrate policies and laws for land use, natural and water resources for better and more sustainable spatial planning and managemen • Strengthen consultation process with communities in planning, implementation, monitoring and evaluation of projects • Support co-management of natural resources and sharing of benefits with local communities • Strengthen framework and application of economic incentives and disincentives for promoting environmental sustainability

Stakeholders role	• EAC and Regional Stakeholders – harmonization and integrated planning/initiatives • Central government – policy formulation and regulatory measures • Local Government – planning, operation and education • Local communities – awareness campaign, outreach participation planning • NGOs/CSOs - awareness campaign, outreach participation planning • Research and training institutions – training, research, information generation and dissemination

	KTI – 3
Thematic Area	Ecosystems, Natural Resources and Environment
Key Transboundary Issue	Declining fish stocks and loss of habitats and biodiversity
EcoQO	Increase in annual fish yield and aquatic biodiversity in the Lake
Indicator	Process: Number of implemented and harmonised legislations. No of protected fishing, breeding and nursery ground Stress: Fish yield pr year State: Number of endangered species. Fish stock statistics.
Strategy	Implementation of long term sustainable management measures and increase biodiversity
Targets	1. Increase fish stocks to sustainable yield levels within 5 years 2. Maintain aquatic biodiversity and restore habitats at present (2007) level
Interventions	• Capacity building of communities on sustainable fisheries management • Strengthen, harmonize and implement policies and legislations including quota for fishing and fish processing • Provide credit to support only alternative livelihoods • Implement the Regional plan of action on the management of fishing capacity • Protection of fishing, breeding and nursery grounds • Stock restoration with fish from satellite lakes • Restrictions on expansion of fish processing plants • Promote investments in aquaculture industry • Create fish refugia and protected areas
Stakeholders role	• Central government – policy formulation and regulation • Local government – infrastructure, planning, operational management, and procurement • Financial institutions – credit and loan provision • Private sector – planning, procurements, construction, maintenance, service delivery • NGO's and Local Communities – extension, civic education, awareness, planning and service delivery • Universities and research institutions – technological innovations, value addition and research, applied training • Artisan fishers, local communities and processors – service delivery and consumers

	KTI – 4
Thematic Area	Ecosystems, Natural Resources and Environment
Key Transboundary Issue	Increasing pollution and eutrophication due to atmospheric deposition, domestic and industrial activities
EcoQO	Decline in pollutants entering the lake and a decrease in invasive species in Lake Victoria, satellite lakes and tributaries
Indicator	Process: No. of waste water treatment plants Stress: Water quality in main rivers to LV. Water hyacinth in Kagera river. State: Concentration of heavy metals and POP in fish. Total P and N in open waters. Acreage covered by water hyacinth
Strategy	1. Strengthen and harmonize point source pollution control 2. Strengthen and harmonize non-point source pollution control 3. Implementation of programs for preventing introduction and further proliferation of invasive species
Targets	1. 50 % reduction in point source pollutants of the Lake Victoria 2. 50 % reduction in non-point source pollutants of the Lake Victoria 3. Reduction to non-nuisance levels of 10 percent coverage in the lake, satellite lakes and tributaries
Interventions	• Reduce point source pollution by strengthening industrial and municipal waste management in urban and industrial centers • Develop and implement spatial/urban planning with establishment of waste disposal infrastructure and clean technologies • Harmonization of effluent standards • Enforce polluter pay principles and regulations • Economic incentives/ "Green funds" for investment in clean and sustainable technologies, including reduction, reuse, recycling and recovery of materials. E.g. agricultural water reuse • Control pollution from artisan mines and undertake restoration of them • Control pollution from large-scale mines and undertake restoration of them through enforcement of existing legislation and creating awareness • Economic incentives/ "Green funds" for investment in clean and sustainable technologies, including reuse and recycling of materials • Strengthen measures and promote control of the aquatic weeds • Harmonize and enforce regulation on invasive species
Stakeholders role	• Central government – policy formulation and regulatory

	measures • Local Government – environmental planning and reinforcement of agreed laws and regulations • Financial institutions – credit and loans provision • Private sector – procurements, construction, maintenance and service delivery • Local communities – environmental planning and service delivery • NGOs – Awareness creation to polluters and the public at large • NEMA/NEMC – Impact assessment and environmental audit • Research an technology institutions – Research in innovative solutions for waste management

	KTI – 5
Thematic Area	Ecosystems, Natural Resources and Environment
Key Transboundary Issue	Unsustainable water resources management, declining water levels, and climate change
EcoQO	Increase of catchment storage and regulated discharges with lowering of sediment load and preparedness for water related disasters and sustaining lake water levels through sound IWRM principles.
Indicators	(i) Runoff variability, (ii) percentage of communities, municipalities and cities prepared for disasters (floods and droughts) and (iii) number of IWRM plans made operational
Strategy 1	Development of Drought Relief and Flood Management through structured and non structured measures, early warning systems and emergency measures
Targets	1. A 10 % decrease in runoff variability 2. 80% preparedness through operational programmes at local government level for disasters 3. Increase per capita storage by 50% 4. Increasing the existing monitoring network densities and frequencies by 25%
Interventions	• Undertake water and soil conservation measures • Invest in education, training, public awareness and research programs for disaster management (vulnerability of both surface and ground water) • Invest in funds for disaster management and prevention • Invest in infrastructures for drought relief and flood mitigation • Develop and implement clear guidelines and rules for water abstraction (surface and groundwater) for main users of the lake and lake Basin water • Institutionalize risk reduction measures • Develop an effective information and communication system for drought and flood preparedness • Harmonise and implement water laws and policies

	• Invest in projects and structures for reuse of industrial and waste water
Stakeholders role	• Central government – policy formulation, regulatory measures and strategic planning • Local Government – awareness and preparedness plans for the population • Financial institutions – credit and loans provision • Private sector – procurements, construction, maintenance for development of infrastructure • Local communities and NGO's/CSO's – conduct awareness and preparedness campaigns for the population • Research and Technology institutions – development and operation of disaster monitoring system

Non-prioritised Key Transboundary Issues

	KTI – 6
Thematic Area	Ecosystems, Natural Resources and Environment
Key Transboundary Issue	Loss of terrestrial biodiversity (e.g. reduction in flora and fauna species)
EcoQO	Reduced terrestrial biodiversity loss
Indicator	Number of threatened and endangered species
Strategy 1	Strengthening and harmonization of land use, spatial development and natural resources mgmt
Targets	All land use, spatial development and natural resources planning coordinated under an overall Basin development framework
Interventions	• Strengthen, harmonize and coordinate land allocation system, land management and spatial planning • Strengthen, harmonize and coordinate land allocation system, land management and spatial planning • Enhance awareness programs on environmental management • Promote and invest in Sustainable Eco-Tourism services
Stakeholders role	• Central government – Harmonization, policy and guidelines formulation, regulatory measures and strategic planning • Local Government – Coordinate management • Financial institutions – credit and loans provision • Local communities and NGO's/CSO's – awareness, empower and involve communities • Private sector – Invest in sustainable tourism as part of co-management of wildlife • Research and Technology institutions – development of management tools, monitoring, population mapping • NGOs - awareness creation to stakeholders • NEMA/NEMC – Impact assessment and environmental audit
Strategy 2	Recovering terrestrial biodiversity.

Target 2	Maintain biodiversity at present (2006) level
Interventions	• Regulate excessive penetration and use of indigenous flora and fauna so that regeneration can take place • Introduce Wildlife Management Areas (WMAs), co-management of Wildlife and protect wildlife habitat
Stakeholders role	• Central Government – Preparing/enforcing policy and legal issues and designation of areas • Local Government – Preparation and enforcing by-laws and mobilization of local resources • NGOs – Awareness creation, capacity building and local community mobilization • NEMA/NEMC – Impact assessment and environmental audit Research institutions – Research in biodiversity issues

	KTI – 7
Thematic Area	Production and Income Generation
Key Transboundary Issue	Inadequate infrastructure (e.g. rural road networks, energy sources, safety of navigation)
EcoQO	Increased investment in, and development of, various infrastructures (roads, energy, light houses and landing infrastructure etc.)
Indicator	Annual investment in various infrastructures (roads, power generation and transmission, navigation)
Strategy	Improvement of infrastructure and coordinate development with spatial planning
Targets	A 30% increase in annual investment and development of infrastructures
Interventions	• Enhance and maintain road, water transport, fish landings, railways, airways, communication and energy networks at national and regional level • Develop national and regional plans for increased investment in trunk roads • Mobilize diversified funding and management of infrastructure, i.e. encourage government, private sector and community partnerships • Encourage energy efficiency and create incentives for use of alternative energy sources • Investment in national and regional navigation safety monitoring systems • Increased investment in power generation, transmission and distribution with private partnerships • Private sector as a provider of infrastructure services and mobilization of financial resources
Stakeholders role	• Central government – policy formulation, standards and foreign investment and planning • Local government – standards, service delivery and plans and procurement • Cities and municipalities – planning and procurement • Financial institutions – credit and loan provision • Private sector – planning, procurements, construction, maintenance, service delivery • Local communities – planning, construction, maintenance and service delivery

	KTI – 8
Thematic Area	Production and Income Generation
Key Transboundary Issue	Inadequate use and adoption of appropriate technology and research
EcoQO	Expanded research for, and adoption of, appropriate new technologies
Indicator	Amount of investment in (i) new technologies and (ii) research on clean technologies
Strategy	Introduce appropriate technologies for better conservation and protection of the environment
Targets	A 45 % increase in investment in new technologies
Interventions	• Facilitate investment in environmentally sound technology in all sectors • Invest in research for development of ecological friendly services and products • Promote differential taxation and insurance levels for dirty/clean technologies
Strategy 2	Development of arenas for innovation and facilitate the making of regional "champions"
Target	A 10% yearly growth in investment in arenas for innovation and centers of excellence
Interventions	• Facilitate private involvement in sector development • Create and enhance national and regional centers for excellence in Research and Development • Creating national and regional frameworks for effective marketing of innovative products and new technology • Promote private investment in research and development • Private sector investment in provision of telecommunication and internet services • Promote and invest in alternative sources for energy
Stakeholders role for both strategies	• Central government – policy formulation, planning and promotion of centers of excellence • Local government – research and development, service delivery • Financial Institutions – credit, loans and insurance provisions • Private sector – service delivery • NGOs and CSOs – research and development planning, outreach • Local communities – service delivery • Universities, research institutions and bureaus – research, development planning and dissemination

	KTI – 9
Thematic Area	Production and Income Generation
Key Transboundary Issue	Crop production and livestock Issues (e.g. overstocking, diseases, low yields) including inappropriate market system and post harvest losses
EcoQO	Improvement in crop and livestock husbandry and increase in yields
Indicator	Annual yields in livestock and crop production
Strategy 1	Harmonize, strengthen and stabilize crop and livestock production for food security Basin-wide, including increased market access as well as better storage, value addition and transportation of products
Targets	A 30% increase of annual yield compared to last decenniums in livestock and crop production
Interventions	• Investment, development and adoption of improved technologies through Strengthened R & D • Diversification of crops to minimize risks in fluctuation as well as foster proliferation of higher value crops • Development of private sector investment in extension services provision • Improve infrastructure for production, transport and access to markets • Harmonized and coordinated control and monitoring of pests and diseases in the region • Creating national and regional frameworks for effective marketing of innovative products and new technology • Development of cost-effective irrigation and water harvesting technologies for growth and stabilization of crop production • Create Basin-wide accessibility to livestock products to “scalp” local overproduction • Investment in better storage and transportation facilities
Stakeholders role	• Central government – policy formulation, framework developments • Local government – delivery of crop and livestock production services • Universities/research centers – R&D development in bio-safety, biotechnology and value addition • Private sector – investment in irrigation, processing, transport, storage, marketing and extension • Financial institutions – credit and loans provision • Local community – crop and livestock production, irrigation, processing and marketing • NGOs and CBOs – Community mobilisation

	KTI – 10
Thematic Area	Living Conditions and Quality of Life
Key Transboundary Issue	Poor access to health facilities and programmes (particularly HIV/AIDS, malaria and tuberculosis)
EcoQO	Adequate provision of, and access to, basic health care for all people living in the Basin
Indicator	Population with access to basic health care in the Basin
Strategy 1	Strengthening of health programs and services targeting major diseases (particularly HIV/AIDS, malaria and tuberculosis but also communicable diseases)
Targets	100% coverage for basic health care in the Basin
Interventions	• Strengthen organization of the health sector • Provide affordable and accessible quality health care, facilities and trained staff, especially in rural areas • Increase investment in basic health care • Education and awareness programs and outreach on preventive health care • Institutionalize testing and counselling • Provision of support for affected and infected • Strengthen awareness campaigns, sensitisation and capacity building on HIV/AIDS to communities • Expand access to medicine as well as nutritious food to victims of HIV/AIDS and other diseases • Increase accessibility to drugs, especially in rural areas, through amongst others extension of service providers
Stakeholders role	• Central government – policy formulation, framework developments and planning • Central government – policy formulation and standards • Local government – health planning, procurements and service delivery • Financial institutions – credits and loans provision • Private sector – health planning, procurements, construction, maintenance and service delivery • NGOs/CSOs – planning, outreach, training and awareness • Local communities – health planning and service delivery • Religious organisations - outreach

	KTI – 11
Thematic Area	Living Conditions and Quality of Life
Key Transboundary Issue	Inadequate coverage of safe water supply and sanitation system
EcoQO	Full coverage for the population to safe water and sanitation services
Indicator	Amount (%) of population with access to safe water and sanitation services
Strategy 1	Harmonize, coordinate and strengthen the sectors for service delivery (water supplies and sanitation) Basin-wide
Targets	100% coverage for safe water and sanitation services in the Basin
Interventions	• Facilitate funding for rural and peri-urban water supply • Coordinate spatial planning with planning of service delivery and cleaning facilities Basin wide • Investment in infrastructure for water/sanitation service delivery including new technologies • Institutionalize regulators on service delivery • Differentiate water pricing systems • Institutional strengthening and harmonization Basin-wide in demand management and service delivery • Education programs an awareness campaigns in basic hygiene practices and sustainable water harvesting and conservation techniques • Support community participation and capacitate them in organisation, planning, construction, maintenance and management of their water supply and sanitation facilities • Support campaigns to protect water sources from contamination • Repair and maintenance of existing sewerage systems • Enhance training of water supply and sanitation personnel
Stakeholders role	• Central government – policy formulation and standards, integrated strategies • Cities and municipalities – integrated planning, procurement • Local government – integrated planning, service delivery • Financial institutions – credit and loans provision • Private sector – planning, procurements, construction, maintenance and service delivery • NGOs/CSOs – education, awareness, planning • Local community – planning, education, service delivery

	KTI – 12
Thematic Area	Living Conditions and Quality of Life
Key Transboundary Issue	Low level of formal education and high illiteracy rates
EcoQO	Full coverage of primary education, and an increase in secondary education, throughout the Basin communities
Indicator	Amount (%) of population enrolled in (i) primary education and (ii) secondary education
Strategy 1	Harmonization and strengthening of basic and higher education throughout the region
Targets	100% coverage of primary schooling (boys and girls alike) by 2015, and an 50% increase in higher education in the Basin
Interventions	• Provision of universal primary education backed by adequate budgetary allocation where lacking • Promotion of private investment in education system • Government support to marginalized groups • Rehabilitation and construction of new schools, especially in rural areas • Promoting vocational training institutions and skills development with particular emphasis on young people • Promoting and supporting girl-child education • Establishment and enhancement of centers of excellence • Promotion of technical education in the region • Harmonization of curricula, standards assessment and evaluation of education • Prepare law (s) to discourage school girls from forced early marriages and pregnancies • Awareness campaigns on education
Stakeholders role	• Central government – policy formulation, standards and planning • Local government – planning, procurement and service delivery • Financial institutions – credits and loans provision • Private sector – planning, procurements, construction, maintenance and service delivery • NGOs/CSOs – educational planning • Local communities – educational planning and service delivery • Religious organisation – service delivery and outreach

	KTI – 13
Thematic Area	Population and Demography
Key Transboundary Issue	High population growth rate (includes low access to antenatal and birth control facilities)
EcoQO	Attaining a growth rate that matches with the resources and ability to serve it, and increased access to antenatal and birth control facilities
Indicator	Annual growth rate, mortality rate and life expectancy
Strategy 1	Develop and introduce programs and campaigns for stabilization of growth rates throughout the region, including provision of facilities for control
Targets	Stabilize the population growth within the next 5 years by a 30% reduction in growth
Interventions	• Carry out information, education and communication campaigns to sensitise communities and policy makers on the interrelationship between population, environment and sustainable development • Support family planning and reproductive health schemes • Integrate population issues in development planning and implementation • Support formalized courses in education for family planning • Investment in antenatal and birth management facilities
Stakeholders role	• Central government – policy formulation, review, integrated strategies, evaluation and monitoring • Local government – planning, awareness campaigns and education • NGOs/CSOs – awareness campaigns, training, education and planning • Local communities – Maintain services and facilities, monitor and give feedback

	KTI – 14
Thematic Area	Population and Demography
Key Transboundary Issue	Poverty and increasing number of marginalized people (e.g. unemployed, orphans, displaced etc.)
EcoQO	Decrease in numbers of marginalized people throughout the Basin communities
Indicator	Number of people living under the poverty line
Strategy 1	Harmonize and strengthening programs for uplift of marginalized people Basin-wide
Targets	Reduce the number of disadvantaged people by 50%
Interventions	• Develop and implement programs to alleviate poverty and increase employment opportunities inter alia by; • *Integrating environmental issues into poverty reduction interventions* • *Establishing economic incentives for small companies and industries* • *Create, promote and strengthen credit provision for marginalized people, e.g. micro finance and credit* • *Designing and implementing low cost housing programs* • *Improving productivity of small scale farmers/fishermen, and reducing post harvest losses* • Minimize vulnerability to rainfall variability by increasing investment in smallholder irrigation and commercialization of agriculture and livestock • Strengthen orphan care
Stakeholders role	• Central government – policy formulation, integrated strategies service delivery • Local government – planning, education, facilitate, coordinate and support • NGOs/CSOs – awareness campaigns, training, education and planning • Local communities – Initiate local development projects, awareness campaigns, training, education and planning • Financial institutions – credits and loans provision • Private sector – planning, procurements, and service delivery

	KTI – 15
Thematic Area	Population and Demography
Key Transboundary Issue	Rural to urban migration
EcoQO	Reduced rate of rural to urban migration
Indicator	Yearly rural to urban migration rate (%)
Strategy 1	Harmonization and strengthening of plans and initiatives for rural development
Targets	Yearly rural to urban migration rates halved by 2025
Interventions	• Address conflicts resulting from rural-urban migration • Invest in and improve economic and employment opportunities and develop entrepreneurial/ vocational skills for rural population • Provide financial incentives like micro-credits to rural population through a gender sensitive approach • Invest in basic services like water supply and sanitation, health care, education and access to markets • Formalize properties for a carefully mitigated and risk managed access to loans
Stakeholders role	• Central government – policy formulation, integrated strategies, service delivery • Local government – planning, education, service delivery • NGOs/CSOs – awareness campaigns, training, education and planning • Local communities – maintain customary roles and rules • Financial institutions – credits and loans provision • Private sector – support community development initiatives, employment creation

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