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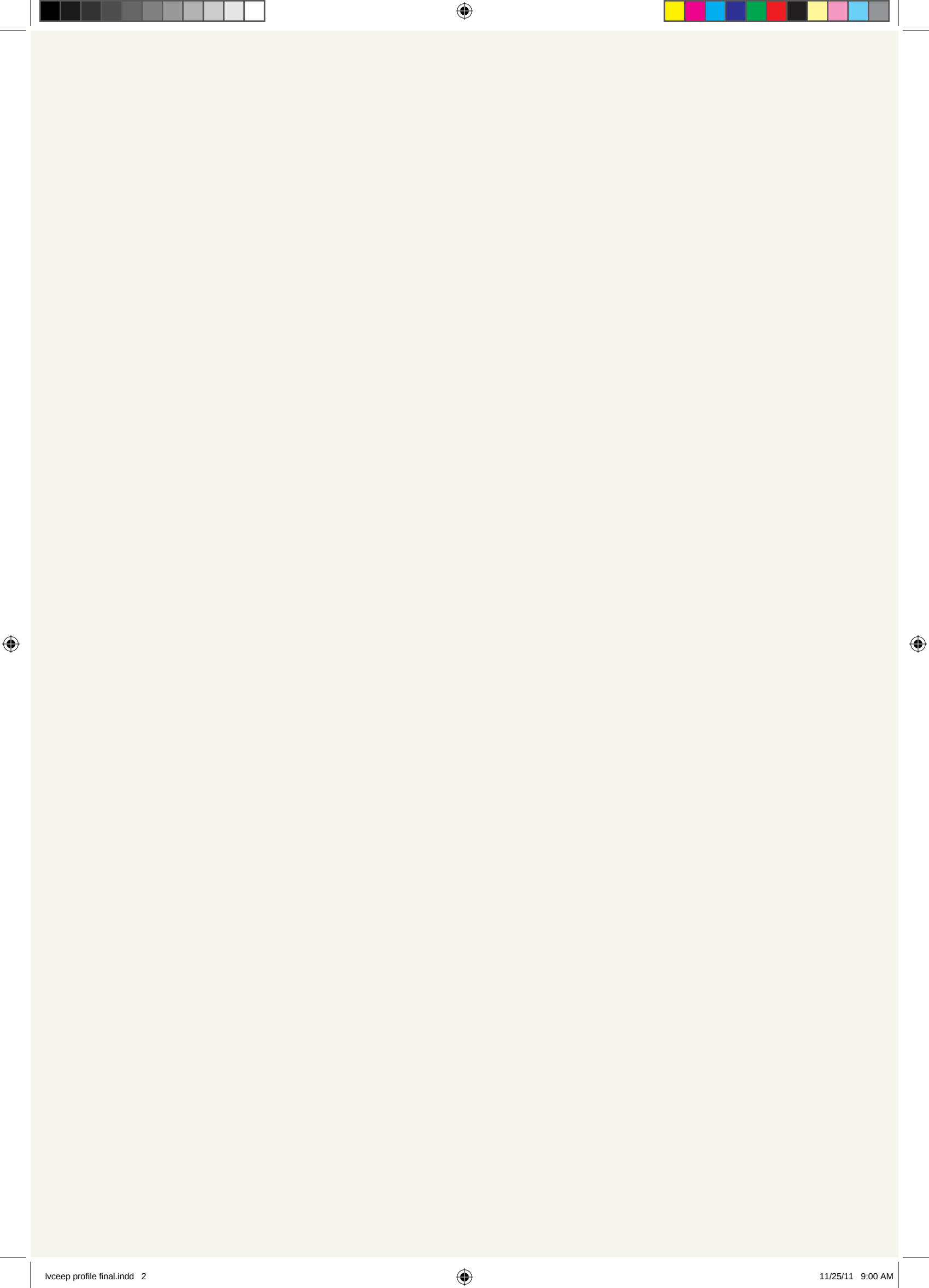
REPORT

ESA

2011

Lake Victoria Catchment Environmental Education Programme

A PROFILE





Lake Victoria Catchment Environmental Education Programme

A PROFILE





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WWF is one of the world's largest and most experienced independent conservation organizations, with over 5 million supporters and a global Network active in more than 100 countries.

WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by: conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption.



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INTRODUCTION (LVCEEP)

Working in the catchment of Lake Victoria with schools, communities and local leaders through education for sustainable development.

The Lake Victoria Catchment Environmental Education Programme (LVCEEP) is a regional transboundary programme working in the catchment of the Lake Victoria in the East African countries of Kenya, Uganda and Tanzania. The programme works with schools, communities, and local leaders through education for sustainable development to promote the conservation of the Lake Victoria catchment while at the same time promoting sustainable livelihoods.

LVCEEP is executed by the WWF Eastern and Southern Africa Regional Programme Office (WWF - ESARPO). The Programme's main focus is on the sustainable management of the Lake Victoria catchment and to bring about improved livelihoods via Environmental Education. LVCEEP's activities target pupils/students and teachers in schools, community members and leaders in selected sites in the Lake Victoria catchment. It has been operational in three East African countries of Kenya, Uganda, and Tanzania since the year 2004. The first phase of LVCEEP which was implemented in the period between 2004-2007 was guided by the principles of environmental education, while the second phase which has since expanded into Rwanda in 2010 is guided by the principles, provisions and key thrusts of the United Nations Decade of Education for Sustainable Development (UNDESD – 2005-2014).

The purpose is to empower catchment communities, schools and regional partners with the knowledge, motivation and abilities for sustainable use and management of natural resources.

The strategic approach and expected outputs of LVCEEP are based on four key components namely: Formal education; Non formal education; Materials and; Networking.

The Goal of LVCEEP is to secure the ecological integrity and sustainability of the Lake Victoria catchment for the benefit of its inhabitants and biological diversity.



The expected outputs of the LVCEEP programme are as follows:

Formal education

In regard to formal education, LVCEEP expects to build and strengthen the capacity of teachers and teacher trainers to deliver ESD as an integral part of their normal education activities in selected sites as well as spread this best practice in wider areas. Through the formal education component, it is also expected that school children understand the rationale for conserving freshwater ecosystems and other natural resources and the linkage between natural resource management and sustainable livelihoods. Additionally, it expects to get decision makers to sufficiently support education for sustainable development through curriculum and other policy documents, offer support to pre- and in-service teacher training and give clear signals of the importance of learning for sustainable development both nationally and regionally.

Non formal education

The Non formal education component expects to contribute to having riparian communities achieve capacity to conserve and sustainably manage natural resources and improve livelihoods within selected sites of the Lake Victoria catchment and have the best practices spread in wider areas.

Material

The Material component of LVCEEP expects to have education materials developed and disseminated to support formal and non-formal environmental education and awareness initiatives in selected sites.

Networking

Finally, the Networking component of LVCEEP expects to have a practical partnership building mechanism for ESD delivery with and among key stakeholders developed and operationalized.

One of the principal characteristics of the LVCEEP is that it is transboundary programme basing its activities in the Lake Victoria catchment that covers sections of the shared borders of Kenya, Uganda and Tanzania.

In 2009, a decision was reached to roll out the programme in Rwanda. There are also prospects to have Burundi join the programme in future phases.

In the LVCEEP, emphasis is given on regional collaboration at all levels, to ensure that the countries work together to secure the ecological integrity and sustainability of the Lake Victoria catchment for the benefit of its inhabitants and biological



LVCEEP IMPLEMENTATION CONTEXT

Socio-economy, ecology, risks, and sustainable development challenges.

diversity.

The Lake Victoria Catchment, where the Lake Victoria Catchment Environmental Education Programme (LVCEEP) is characterized by several contextual

features that have a bearing on the programmes

objectives and expected outcomes. The socio-economic and ecological context of the catchment, as well as the prevailing environmental/ecological, social and economic issues, risks and the other associated sustainable development challenges, form a useful benchmark against which to evaluate the achievements and impact of the LVCEEP. The United Nations Decade of Education for Sustainable Development (UNDESD: 2005-2014) also forms a significant feature of the context of implementation of LVCEEP.

THE LAKE VICTORIA CATCHMENT, ITS PEOPLE AND ENVIRONMENT

Socio-ecological and economic context

Location and Size

Lake Victoria is the largest lake in Africa, and the world's second largest freshwater body. The lake is between the two arms of Africa's Great Rift Valley – eastern (Gregory Rift) and the western (Albertine Rift). So far, the catchment representation by country is about 44% in Tanzania, 22% in Kenya, 16% in Uganda, 11% in Rwanda and 7% in Burundi.

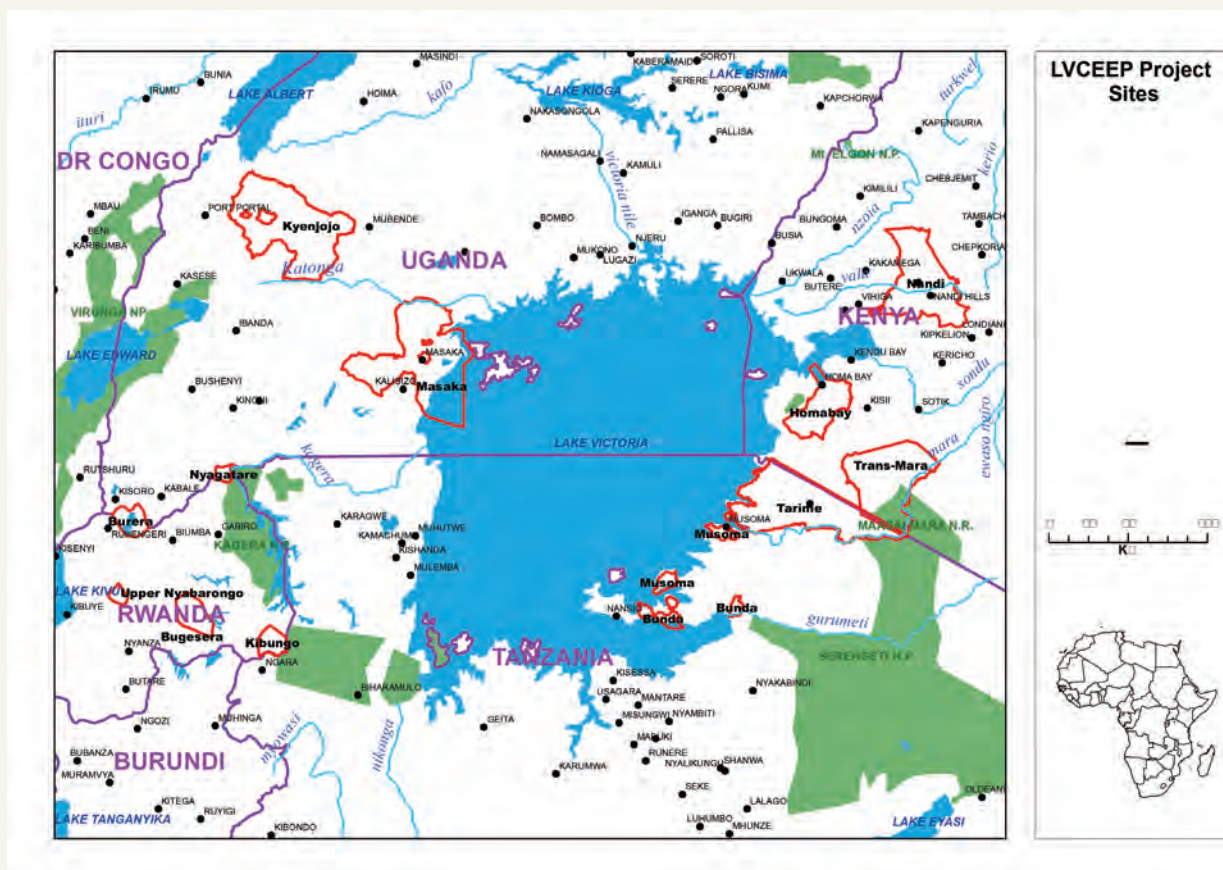
The highlands east of the Albertine Rift and west of the Gregory Rift form the watershed for rivers draining into Lake Victoria. The lake's catchment basin covers a total area of about 193,000 km². There are 27 million people living within the region, whose rate of population growth is about 6% per annum. The population density is about 1,200 people per km². The lakes drainage system comprises of 17 major rivers. The River Nile is the only one draining out of the lake through the Owen Falls at Jinja while rivers Mara, Kagera and Sio have their drainage systems in more than one country.

Ecological context

Natural Resources

Lake Victoria and its catchment are endowed with a rich and unique biological diversity (comprised of forests, wildlife, fisheries etc); agriculture, traditional cultures and spirituality.





Socio-economic Context

Several towns are located within the shores of Lake Victoria. These are Musoma, Kampala, Jinja, Kisumu and Mwanza. The Lake Victoria catchment supports a thriving fishery and agriculture-based economy. Agricultural activities include sugar, tea, coffee, maize, horticulture and livestock production. However, most of the other agricultural activities are small-scale and subsistence in orientation. The various economic activities in these towns are dependent on the Lake Victoria Catchment. These economic activities also influence and are influenced by the catchment ecosystem and its inhabitants. For example, due to the increasing urban population, the towns within the catchment have continuously witnessed a rising demand for food to feed the large human population and energy to sustain the industrial sector - all of which have implications on the natural resource base of the Lake Victoria catchment.

It is generally acknowledged that some socio-economic activities in the catchment contribute to the degradation of the catchment ecosystem. For example, it is reported that the increasing food and energy demands of the urban population are some of the key root causes of the indiscriminate destruction of natural resources and environmental degradation. Several other environmental issues, risks and the associated sustainable development challenges in the Lake Victoria Catchment are highlighted.



Environmental issues, risks and the associated sustainable development challenges in the Lake Victoria catchment. The catchment today holds a marginal place in the region's economy as well as social-ecological fabric despite its rich array of natural resources. This is partly due to the environmental issues and the associated sustainable development challenges that have continued to affect the catchment and its people.

The environmental issues, risks and the associated sustainable development challenges are caused by several factors which include population pressure, increasing poverty, unsustainable agricultural practices, and over-exploitation of natural resources among others. For instance, it is reported that competition for resources by about 17 million people with an estimated annual increase rate of about 6 per cent, potentially poses the threat and risk of depletion and extinction of the rich biodiversity in the Lake Victoria basin. Similarly, agriculture and its invasion and consumption of natural forests, poor livestock keeping practices, increased and unsustainable demands on the natural forests for fuel-wood were some of the activities that were identified to pose serious threats to the lake basin and therefore urgently needed appropriate responses so as to restore the balance of nature.

Additionally, the Lake Victoria catchment which supports a thriving fishery and agriculture (sugar, tea, coffee, maize, horticulture and livestock production) was being threatened by massive soil erosion leading to soil being drifted from the farmlands to the Lake Victoria through the drainage system. This affected food production in the farmlands as well as life and biodiversity in the lake waters. Further, wetlands surrounding the vibrant urban centres of Musoma, Kampala, Jinja, Kisumu and Mwanza, were becoming dumping grounds for effluents, solid-waste, agro-chemicals and industrial waste. This was also affecting the rivers and rivulets within the Lake Victoria, and Mara Catchment which is an important tourism paradise serving Kenya's Maasai Mara and Tanzania's Serengeti National park ecosystem.

At another level, policy issues can also be said to be contributing to the persistence of environmental issues, risks and the associated sustainable development challenges in the Lake Victoria basin. For instance, a poor vision and the absence of good-will among policy makers and implementers have created space for poor planning and inaction in cases where policies exist. A good example is where wetland ecosystems have been turned into municipal dumping ground sites for effluence, solid-waste, agro-chemicals and industrial waste. Some of the negative local and central government actions deliberately circumvent legislative requirements for Environmental Impact Assessments prior to reclamation of swamps and programmes for agricultural, urban and industrial expansions. The resultant negative effects of these activities include loss of massive quantities of topsoil through wind and water erosion, making river systems loaded with silt, sewage and agro-chemicals, thus exacerbating the eutrophication of the lake's ecosystems. Consequently, the loss of ecological, social and economic functions of the catchment is partly responsible for prevalent poverty in the region.



THE UNITED NATIONS DECADE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT (UNDESD: 2005-2014) AS CONTEXT FOR THE IMPLEMENTATION OF LVCEEP

The Lake Victoria Catchment Environmental Education Programme (LVCEEP) is being implemented within the broader context of the United Nations Decade of Education for Sustainable Development (UNDESD). The overall goal of the UNDESD is to integrate the values inherent in sustainable development into all aspects of learning to encourage changes in behavior that allow for a more sustainable and just society for all. The basic vision of the DESD is a world where everyone has the opportunity to benefit from education and learn the values, behaviour and lifestyles required for a sustainable future and for positive societal transformation.

Likewise, the goal and purpose of the LVCEEP are closely related to those of the UNDESD with respect to the Lake victoria catchment. Thus, the goal of LVCEEP is to secure ecological integrity and sustainability of the Lake Victoria for the benefit of its inhabitants and biological diversity, which are affected by high levels of silt, reduced water level and pollution due to environmental degradation taking place around its catchments. The purpose of LVCEEP is to promote and influence change in attitude and behavior of the catchment communities and schools towards their immediate environment while sustainably using and managing natural resources. Implementation of the LVCEEP thus is inspired and influenced by Education for Sustainable Development (ESD).

With the aforementioned, it is clear that WWF's Lake Victoria Catchment Environmental Education Programme (LVCEEP) forms part of the UNDESD's thrust in the East African Countries of Kenya, Uganda, Tanzania and now Rwanda.

It is also noteworthy that the trans-boundary nature of LVCEEP, is in line with the 2002 Johannesburg Summit which proposed the Decade of Education for Sustainable Development 2005–2014 and stated that: 'education is a key instrument for bringing about changes in values and attitudes, skills, behaviours and lifestyles consistent with sustainable development within and among countries. Consequently, LVCEEP is a useful platform for addressing such questions as gender quality, environmental protection, rural development, human rights, health care, HIV/AIDS and consumption patterns across the four countries as they intersect with the sustainable development agenda.

The Lake Victoria Catchment Environmental Education Programme also responds to and links the various international conventions and treaties formulated since the Rio Summit in June 1992. LVCEEP's activities are leveraged on WWF's local and global experiences in the area of environmental education. This is because WWF is a leading environmental NGO operating in more than 90 countries globally with a long standing experience in running environmental education programmes build on a large and solid network of expertise in this field.



THE PROGRAMME (LVCEEP)

The Programme was rolled out in 2004 inhabited by over 30 million people half of whom live in Kenya.

Its conceptualization was motivated by the need to conserve the Lake Victoria's ecosystem and address the environmental problems in the catchment area that is shared by Kenya, Uganda and Tanzania and inhabited by over 30 million people half of whom live in Kenya.

LVCEEP is currently in its second phase of implementation. The first phase was implemented from April 2004 to April 2007, and the second phase has been running from 2008 to date.

Highlights of the key social, economic and environmental perspectives of the LVCEEP programme

Given the prevailing environmental and sustainability challenges in the Lake Victoria catchment, it was found necessary to consider the key social, economic and environmental perspectives from a regional perspective while implementing the Lake Victoria Catchment Environmental Education Programme. Baseline surveys conducted in all the countries sought to assess the socio-economic situation, status of the environment and natural resources, the level of knowledge and understanding of communities and school children in regard to importance of conservation, as well as the attitude and behavior of communities and school children in regard to management and conservation in the selected sites and communities in the Lake Victoria Catchment. The findings informed the programme design in all the four countries including Rwanda whose baseline survey was conducted during the months of May and June 2010.

Consideration of social, economic and environmental perspectives in the design of the LVCEEP Programme was particularly important because most of the sustainability issues are often complex and interrelated. For instance, an environmental (ecological) issue may have both economic and social implications. This approach has also been strongly recommended in the International Implementation Scheme of the UNDES (UNESCO, 2005) - in which some key environmental, economic, and socio-cultural issues of concern have been identified as well as the cross-cutting complex issues such as climate change, urbanisation and sustainable consumption and production.

In addition, the LVCEEP strategy focuses on ensuring that projects portray how economic, social and environmental factors work together for sustainable development and how improved coordination of their activities would achieve possible synergies and optimum use of available resources. This therefore justifies the holistic consideration of issues with due regard to their interrelations and



cause-effect relationships from a regional and transboundary perspective. LVCEEP has keenly considered all these connections and interrelations throughout the programme cycle i.e. from programme design, through to implementation as well as evaluation in the Lake Victoria catchment to cover Tanzania, Kenya, Uganda and lately Rwanda.

A key consideration in the implementation of LVCEEP is the strategy for Swedish support for poverty reduction and sustainable development in the Lake Victoria Basin. The overall aim of the Programme Strategy is to “contribute to poverty reduction in a sustainable development framework”. The LVCEEP activities over the last six years have fitted in within several areas identified as priority areas of activities for which regional measures are seen as necessary. The main priorities of the Swedish strategy have been identified as:

- Capacity building for sustainable development
- Empowering communities and individuals
- A sound environment and sustainable use of natural resources
- Combating HIV/AIDS
- Private sector development for economic growth



LVCEEP PHASE 1

This phase was initially designed as a pilot. It was implemented from April 2004 to April 2007 by partner organizations in the three East African countries.

Wildlife Clubs of Kenya was the implementing partner in Kenya, while Nature Uganda and WWF Tanzania Environmental Education Programme (TEEP) were the implementing partners in Uganda and Tanzania respectively.

LVCEEP Phase 1 at a glance

Goal:

To secure the ecological integrity and sustainability of the Lake Victoria catchment for the benefit of its inhabitants and biological diversity.

Purpose:

To promote and influence change in attitude and behavior of the target catchment communities and schools towards their immediate environment while sustainably using and managing natural resources.

Expected Outputs:

- Capacity of teachers and teacher trainers to deliver Environmental Education (EE) as an integral part of their normal education activities built and strengthened in selected sites.
- Education materials to support formal and non-formal environmental education and awareness initiatives developed and disseminated in selected sites.
- School children understand the rationale for conserving freshwater ecosystems and other natural resources and the linkage between natural resource management and sustainable livelihoods.
- Riparian communities achieve capacity to conserve and sustainably manage natural resources within selected sites of the Lake Victoria catchment.
- A practical partnership building mechanism for EE delivery with and among key stakeholders developed and operationalised.

SUBSIDIARY AND COMPLEMENTARY CONTRIBUTIONS OF LVCEEP:

LVCEEP was also meant to play a complimentary role to the Mara River Catchment Basin Initiative under WWF and was to contribute to the Greater Nile River Basin Strategic Action Programme. It was also designed to link to various international conventions and treaties formulated since the Rio Summit in June 1992.



Target beneficiaries

- School children: Both primary and secondary school children through the introduction of EE in the school curriculum and exposure tours within the respective countries.
- Teachers: Through the teacher training colleges and capacity building workshops.
- School inspectors, district education officers and other stakeholders through capacity building workshops.
- Communities through capacity building workshops and exposure tours.

Programme implementation

LVCEEP phase 1 was implemented by WWF East African Regional Programme Office (EARPO) in several sites spread over 7 districts in the three East African countries.

Three partners assisted in the implementation of LVCEEP in the different sites as follows:

- Wildlife Clubs of Kenya: Homa Bay, Nandi Hills and Transmara areas;
- Nature Uganda: Masaka district;
- WWF Tanzania: Musoma and Tarime districts.

Programme Funding and oversight

LVCEEP Phase 1 was implemented with oversight from WWF Sweden and funds from the Swedish International Cooperation Agency (SIDA).

During phase 1 of LVCEEP, a total of USD 610,308 was spent out of a total budget allocation of USD 638,961.

Achievements of LVCEEP Phase 1 (based on the main priorities as listed in the strategy)

By the end of phase 1, LVCEEP had benefited a total of 32 schools, more than 600 teachers, more than 100,000 pupils/students, 250 tutors and school inspectors, 15 communities, and 12,000 community members both directly and indirectly.

MECHANISMS, APPROACH AND STRATEGIES OF LVCEEP -PHASE 1

LVCEEP IMPLEMENTATION STRATEGY

Phase 1 of LVCEEP employed some useful and carefully thought out strategies that culminated in the realisation of the objectives and expected outputs. The strategic approach of basing the programme implementation on four key components namely: Formal education; Non-formal education; Materials; and Networking ensured that programme activities are focused and tailored to meet the objectives of LVCEEP. Additionally, capacity building on environmental education, the greening initiatives, involvement of other stakeholders, and efficient monitoring of programme activities



are other strategic considerations that ensured effective and efficient delivery of results and the expected outputs. The same approach has been used in Phase 2 of LVCEEP as well.

WWF implements the Lake Victoria Catchment Environmental Education Programme (LVCEEP) through partner Civil Society Organizations (CSOs) in Kenya and Uganda i.e. Wildlife Clubs of Kenya (WCK) and Nature Uganda respectively, while in Tanzania, LVCEEP is implemented through the WWF Tanzania Country Office (WWF TCO). The implementing institutions work with schools and communities in the Lake Victoria catchment at country level. However, due to the trans boundary nature of LVCEEP, some activities are implemented jointly across the countries with due regard to the Lake Victoria catchment which covers all the three countries.

CAPACITY BUILDING ON ENVIRONMENTAL EDUCATION (EE)

The LVCEE Programme has training as one of its major strategies for capacity building. This is inbuilt in the project design and it takes place both formally and informally at all levels using participatory methodologies and learner centred approaches.

Training at the formal level targets school children, teachers, tutors, school inspectors and education officers while communities are the main target group at the informal level.

Greening Initiatives as LVCEEP's strategy

The greening initiative of schools and communities is another key strategy in the LVCEEP.

It involves tree planting, water harvesting, grass planting, “talking compounds” and gardens amongst others. This greening initiative also serves as a learning opportunity and more specifically as the practical session for the target groups.

Involvement of other stakeholders

LVCEEP also has a strategy of involving other stakeholders with similar interests. Such stakeholders include: Ministries of Education, Ministries of Environment, National Environmental Management Authorities (NEMA), Nile Basin Initiative (NBI) and Lake Victoria Environmental Management Programme (LVEMP) among others.

Programme Monitoring

Programme activities and progress are monitored at all levels by SIDA, WWF Sweden, WWF ESARPO, the implementing institutions in each country, communities themselves and programme schools.



LVCEEP PHASE 2

The second phase of LVCEEP commenced in January 2008 and was to run for a period of three years.

It was expected that phase 2 of LVCEEP would build on the lessons learnt from phase 1 and accelerate the impacts realised.

The main focus of the LVCEEP phase 2 is on Education for Sustainable Development as a strategy towards sustainable environmental management and improved livelihoods for the people. The programme is targeting pupils, teachers, education administrators, curriculum developers, private sector and riparian communities. LVCEEP phase 2 was also designed to address key issues and shortcomings identified in LVCEEP phase 1. The strategic approach in implementation of the LVCEEP II activities takes into account the three key elements of Education for Sustainable Development; Environment, Society and Economy.

The Programme implementation strategy is focused on poverty reduction and sustainable development in the Lake Victoria region whose overall aim is “to contribute to poverty reduction in a sustainable development framework”. Additionally, the strategy is focused on ensuring that projects portray how economic, social and environmental factors work together for sustainable development and how improved coordination of their activities would achieve possible synergies and optimum use of available resources.

LVCEEP phase 2 is actively engaging the partners including Nature Uganda and Wildlife Clubs of Kenya in implementation of the project activities. At the national level, the project has formed a core-team network to spearhead the EE/ESD trainings in schools and at the regional level. A Regional Advisory Committee has also been formed and it comprises of stakeholders from the government and NGO sectors.

MECHANISM AND APPROACH OF LVCEEP PHASE 2

Phase 2 of LVCEEP has embarked on a whole school approach to Education for Sustainable Development(ESD) in which activities and training are tailored to target all learners, educators and the entire school community. This second phase has also continued to build the capacity of teachers and communities through trainings on ESD, with the aim of equipping them with skills to enhance sustainable conservation and management of the Lake Victoria catchment areas for long-term sustainability.

The geographic and thematic scope has also been expanded in the second phase. The programme has reached out to new schools and communities in the existing sites as well as the new district of Kyenjojo. It is anticipated that this will go a long way to increase the multiplying effect of the Programme and enhancing sustainability of the project activities. The other **new development** in LVCEEP phase 2 was the formation of the Regional Advisory Committee II (RAC), whose members are drawn from various NGOs and Governmental agencies in four countries in the region (Kenya, Uganda,



Tanzania and Rwanda). The revamped RAC II held its first meeting in Musoma during which Executive officials were elected and the RAC Terms of References, roles and responsibilities reviewed and redefined.

In regard to activities, the strategic approach of the second phase of LVCEEP upholds the essence of being focused, building on lessons learned and existing structures, building up a regional network, embracing a whole school approach more fully, integrating schools and communities more fully, enhancing networking, continuing to influence and engage with policy and policy makers, embracing a more efficient monitoring system, as well as spreading the lessons learned and encouraging greater learning for sustainable development in wider areas through effective outreach. However, the main activity areas for Phase One of the LVCEEP i.e. formal education, non-formal education, material and networking (including start-up activities) were maintained in phase 2 for purposes of continuity.

LVCEEP phase 2 also aspired to continue to increase the learning for sustainable development by using different characteristics of ESD and empowering people. Additionally, LVCEEP Phase 2 maintained its focus on: Poverty, addressing HIV/AIDS, gender issues and human rights.

EXPECTED OUTPUTS OF LVCEEP PHASE 2

1. Formal education:

- Capacity of teachers and teacher trainers to deliver ESD as an integral part of their normal education activities built and strengthened in selected sites and best practice spread in wider areas.
- School children understand the rationale for conserving freshwater ecosystems and other natural resources and the linkage between natural resource management and sustainable livelihoods.
- Nationally and regionally are decision makers sufficiently supporting education for sustainable development through curriculum and other policy documents, support to pre- and in-service teacher training and giving clear signals of the importance of learning for sustainable development

2. Non formal education:

Riparian communities achieve capacity to conserve and sustainably manage natural resources and improve livelihoods within selected sites of the Lake Victoria catchment and best practice spread in wider areas.

3. Material:

Education materials to support formal and non-formal environmental education and awareness initiatives developed and disseminated in selected sites.

4. Networking:

A practical partnership building mechanism for ESD delivery with and among key stakeholders developed and operationalized



REVIEW OF OUTCOMES & IMPACT OF LVCEEP

Securing the ecological integrity and sustainability of the Lake Victoria catchment for the benefit of its inhabitants and biological diversity.

Both Phase 1 and Phase 2 of LVCEEP have made significant contributions towards securing

the ecological integrity and sustainability of the Lake Victoria catchment for the benefit of its inhabitants and biological diversity. This was despite the prevailing constraints to its implementation, key among them being the lack of coordinated conservation activities and approaches by conservation agencies at cross border level in the catchment at the time.

The successful and impactful implementation of LVCEEP can be attributed to a number of factors key among them being its thoughtful and appropriate design. The design consideration to have the scope/target area concentrate on the catchment areas (along the river basins) as opposed to the Lake directly was worthwhile due to the fact that addressing problems in the catchment areas would have direct benefits to the Lake over the long term, whereas addressing the problems around the Lake only, would be short term as the catchment problems would still be an issue to the lake. The realistic and achievable goal and purpose of LVCEEP along with the specific, achievable, realistic and time bound indicators were well designed making it easy to monitor and evaluate progress. The use of environmental education (EE) as the entry point is also strategic given the value accorded to the need for change of attitudes and behavior in the goals and objectives of EE (UNESCO/ UNEP, 1978).

LVCEEP's adoption of the "Swedish strategy for support for poverty reduction and sustainable development in the Lake Victoria region" was also thoughtful and relevant given the operational context and the main priorities of the strategy. The overall aim of this strategy is "to contribute to poverty reduction in a sustainable development framework"

This strategic focus was for Phase 1 and now adopted for Phase 2. This focus required projects to portray how economic, social and environmental factors work together for sustainable development and how improved coordination of their activities would achieve possible synergies and optimum use of available resources made.

The transboundary approach adopted by LVCEEP was also relevant because the impacts would be felt by all the three East African countries whose catchment area also includes Rwanda which was recently incorporated as an East African state together with Burundi.

Other key considerations in the design of the LVCEEP which contributed to its success include its integrated approach, orientation towards the society, as well as its process, action and learner orientation. The above priorities that were taken into account during the design and implementation phases of the programme demonstrated considerable success and effectiveness.



FORMAL EDUCATION

The impact of LVCEEP under the formal education output component is evident at the school level both in tangible outputs as well as in other outcome forms. The cumulative contribution of both the first and second phases of LVCEEP has led to some significant positive impacts in the formal education sector in all the three East African countries of Kenya, Uganda and Tanzania.

Evidently, the capacity of teachers and teacher trainers to deliver ESD as an integral part of their normal education activities has been built and strengthened in selected sites where LVCEEP has been operational across the East African catchment of Lake Victoria. Additionally, best practices have spread into wider areas in the catchment.

The second phase of LVCEEP has paid particular attention to addressing issues of capacity building of teachers and teacher trainers to deliver ESD to school children and community groups and promoting the links between sustainable conservation and management of natural resources and sustainable livelihoods. The emphasis in this phase is to highlight the link between society, environment and economy based on the understanding that education is the key to creating an informed society capable of making decisions that are not detrimental in pursuit of development aimed at improving livelihoods.

There is also sufficient evidence to confirm that school children have understood the rationale for conserving freshwater ecosystems and other natural resources and the linkage between natural resource management and sustainable livelihoods. The impact of LVCEEP at schools level, along with compelling evidence is presented below as evidence of success.

FORMAL EDUCATION : IMPACTS AT THE SCHOOLS LEVEL

Some of the positive impacts realised include the following:

Capacity of teachers and teacher trainers to deliver ESD as an integral part of their normal education activities has and continues to be built and strengthened in selected sites across the Lake Victoria Catchment in Eastern Africa

The capacity of teachers and teacher trainers to deliver ESD in Kenya, Uganda and Tanzania has been enhanced through the Lake Victoria Catchment Environmental Education Programme (LVCEEP). The capacity building activities in both phases 1 and 2 have significantly contributed to this enhanced capacity. It is noteworthy that to date, LVCEEP has enhanced the capacity of teachers and teacher trainers in Kenya, Uganda and Tanzania. On average 90% of targeted educators are now able to coordinate and monitor ESD programmes in model schools. The programme used a trans-boundary approach but adopted different approaches and focus to capacity building in each country, all of which have significantly contributed to the enhanced capacity of teachers under the LVCEEP in the East African catchment of Lake Victoria. To ensure sustainability of this intervention, a core team comprising of eight members has been established in each country and trained in ESD methodologies. This core team has been supporting the project team in training communities and schools and it draws its membership from communities, schools and local governments.





Teachers at an ESD workshop.

In Uganda for instance, training and capacity building focuses on the project sites of Masaka and Kyenjojo. Participants are mainly drawn from primary teachers colleges (PTCs), secondary schools and primary schools as well as administration staff in the respective schools. Additionally, the school management committees and Parents Teachers Associations have linked the schools, teacher training institutions and communities.

In Kenya, teachers have been trained on the whole school approach in the Lake Victoria catchment. Additionally, new schools have been up-scaled in the Programme - two in each site i.e. in Homabay (Pedo and Maguti primary schools), South Nandi (Kapkitony and Kamarich primary schools) and one in TransMara (Ikarian Primary school). Additionally, tutors of Asumbi Teachers College and Bondo Teachers College in Kenya have been trained on ESD delivery and methodology, while in Uganda 3 Primary Teachers Colleges have been trained on the same, but with a particular focus on creating ESD awareness by exposing participants to the processes and approaches and adaptation themes. These include introduction of the ESD Concept, Teaching/Learning through Participatory Approach, demonstration on Outdoor Education, introduction of a Whole School Approach Concept and Integration of ESD in all subjects.

In Tanzania, all teachers in pilot schools have been trained in Education for Sustainable Development in a Lake Victoria Catchment perspective. Action learning workshops have been held to build capacity of teachers on how to deliver ESD/EE using action learning methodologies.



Post-training follow-up visits

To ensure success and sustainability, follow up visits have been made to schools adapting EE/ESD practices from pilot schools. These are further followed up by a training workshop that trains teachers from new schools adapting/copying best practices on EE/ESD.

The whole school approach

The strategy of using a Whole School Approach has continued to increase the multiplier effects of ESD best practices where teachers and pupils transfer the learning to their households and neighbouring schools and communities.

The capacity of Project Executants and the Core Team members

The capacity of the Project Executants and the Core Team members on ESD methodologies has also been built. Consequently, they have been able to train teachers on ESD methodologies which promote participatory active learning. This has helped to build ESD competencies in the programme in terms of pedagogy to promote critical thinking skills, action learning, decision – making skills and other ESD values like democracy, and respect for other people's opinions.

A more holistic approach in sustainable development has been realised as a result of training of teachers and teacher trainers on ESD and whole school approach. Consequently, teachers are increasingly involved in the coordination of the ESD activities and are practicing effective ESD methodologies.

Additionally, the capacity of the project executants and core team members has been further built and enhanced in phase 2 so as to cope with some new activities that required some knowledge of and familiarity with some basic concepts such as: integrative teaching methods, action research and outreach and dissemination. Training workshops on: The fundamentals of Education for sustainable development, whole school approach, action research, integrated approach on locally relevant themes in the Lake Victoria catchment, livelihoods assessments and sharing of lessons learned among others have been very instrumental in this regard.

The capacity of school inspectors has been built

Capacity building of the school inspectors has also taken place.

The school environments have been rehabilitated

The 'Greening initiative' of LVCEEP has led to the rehabilitation of the school compounds of all the 32 schools in the programme. Rehabilitation involves beautification of school compounds through planting of different types of trees, grass and flowers as well as designating pathways in the school compounds. The grass has provided soil cover and contributed to the reduction in soil erosion. Grass cover and gravel in pavements have also improved the overall cleanliness of pupils by reducing the amount of dust and mud in the school compounds.



Tree planting and erosion control in schools has been intensified during the second phase with schools in Kenya, Uganda and Tanzania considerably increasing their trees cover. For instance, Kapkitony Primary School in Nandi South has additionally planted over 200 indigenous and exotic tree species. Similarly, Maguti Primary School has established a tree nursery and continued to plant trees. Other remarkable rehabilitation efforts in schools include the erosion control efforts at Pedo Primary School in which some stone lines have been layed out as a way of curbing soil erosion in the school



Rehabilitated school compound

The trees planted in schools now provide shade for relaxation and also act as windbreakers thus protecting buildings and roofs from being destroyed by strong winds. Notable examples are found in Kenya, Uganda and Tanzania as well. They include Lieta Kabunde in Kenya and Kirumi Primary School in Tanzania.

The school compounds are now being used as teaching and learning resources

In all the East African countries of Kenya, Uganda and Tanzania, the transformed school compounds are now being used to aid teaching and learning processes in schools hence serving as teaching and learning resources. The compounds are now acting as teaching aids/talking compounds for Environmental education processes and other subjects such as math, science, and agriculture among others. A good example of where the transformed compounds are being used to aid teaching and learning of math can be seen is in Kirumi Primary School in Tanzania and Kisojo Primary School in Uganda where geometrically shaped flower beds and gardens are used to teach geometry. Biological and ecological functions of nature are also taught outside the classroom.

Informal learning and good environmental practices are also being enhanced in the

transformed school compounds through signage and eco-codes. Examples include cases where trees and different plants are labeled and environmental messages exhibited around the school in some cases. Some common messages include: 'Do not litter',



Signage at Ndurio Community/School project site.

LVCEEP schools have become demonstration centers for other schools and communities

LVCEEP schools are being used as demonstration centres of Environmental Education (EE) by other schools and the communities. In particular, schools have become interactive learning centres for waste management, organic farming, and energy saving technologies such as the energy saving stoves. Kisojo Primary School in Uganda is a good example of a school that has served the surrounding schools and communities well in this regard. It is worth noting that the community has its own demonstration plot in the school. Interactions between the community and schools has also been enhanced mainly by way of pupils informing their parents of the developments in school and their parents responding by visiting the school to learn and get a first - hand account of the developments initiated through the LVCEEP.

Good governance practices have been enhanced in LVCEEP schools

Governance has generally improved in the LVCEEP schools. Good governance practices have been realized in schools in the LVCEEP mainly due to enhanced discipline and active engagement with environmental activities, thus reducing idleness amongst the students and teachers fraternities. Evidence of this was adduced in the case study¹ of Pemba Primary School in Tanzania.

¹ Narrated by Dina Nicodemus, Environment Teacher, Pemba Primary School



CASE STUDY 1: PEMBA PRIMARY SCHOOL, TANZANIA

Before the project the teachers and pupils were not motivated. Teachers never used to take their work seriously and used to arrive late to school and leave when they are tired. After the teachers went for training they came up with an action plan but they still did not take it seriously until follow-ups began by the school inspectors. When they saw that they had to compete with other schools in environmental issues, they bought musical instruments and formed a choir and began having drama which could relay environmental messages. In addition they changed their examination system so that tests were given on a monthly basis thus motivating the teachers to engage more with the students as all teachers were competing to have their subject done well.

The whole school was changed into a big environmental club and everybody in the school fraternity was given environmental duties, i.e. they were to take care of the agricultural gardens, gravelling, the medicinal gardens, flower beds e.t.c. All children have their own seed beds in the school compound where they grow various vegetables.

Because of the above, school governance has improved, cases of indiscipline are rare, teachers and children are motivated and full of self-confidence and this has translated into better academic performance and other schools have come to emulate their example as they have seen the change. In addition, cases of jiggers, water borne and respiratory diseases have reduced tremendously.

Academic performance has been enhanced in the LVCEEP schools

On the basis of the number of children transiting to secondary schools, it has been reported that academic performance has been enhanced in the project schools. This has been attributed to the incorporation of ESD in the school system as well as the enhanced food security in the project schools.

Food security has improved in the LVCEEP schools

The food security of the schools in the programme has improved. This is mainly due to diversification of agriculture and organic farming using compost from the recycling of biodegradable waste materials. Schools are now able to provide balanced meals for their pupils and even teachers, consequently, teachers no longer need to leave the school compound for lunch. Additionally, retention of pupils in schools during the long dry seasons is guaranteed as they are assured of a meal in school. This has contributed significantly to the enhanced academic performance.

LVCEEP schools have realized improved income

LVCEEP schools have increased their incomes mainly because of selling excess produce in the markets. Consequently, schools are now able to buy school equipment, subsidise costs of poor children and even distribute surplus funds to parents as in the case of Bunda Primary School.

The pupils have experienced some degree of self-reliance

Pupils in the project schools that are involved in the agricultural gardens and some disadvantaged pupils are now educating themselves with proceeds from the gardens. A



good example is that of Lieta Kabunde Primary School in Homa Bay district of Kenya (See case study 2). The other interesting case is that in which a student in Uganda is educating himself by constructing mobile energy stoves and selling them for Ushs 20,000 a piece.



Energy saving stove

CASE STUDY 2: DAVID OOKO

David Ooko is a 14 year old boy in Lieta Kabunde Primary School in Homa Bay district, Kenya. He is in Standard 8 and will be sitting for national examinations this year (2010). He runs a child headed household as he is orphaned because of HIV/AIDs. He is the last born in the family and he lives alone. Since the onset of the programme in the school his life has improved tremendously. He has his own school garden and sells produce from his garden and is able to purchase uniform and stationery. He also gets food to eat from his school garden. The teachers in the school also assist him when necessary but he is self-reliant.

Prevalence of diseases has reduced tremendously

LVCEEP has contributed to the reduction in the prevalence of water-borne diseases, respiratory diseases as well as parasitic diseases.

The reduction in the incidence of water-borne diseases in the LVCEEP schools has been attributed to the adoption of boiling of water, while reduction of respiratory diseases has been attributed to less dust the compound. Additionally, parasitic diseases such as jiggers and worms have also reduced due to the wearing of shoes .

Multiplier effects – more schools are following suit

Due to the success of the schools involved in the LVCEEP, other neighbouring schools have begun emulating the incorporation of ESD in the school environment. A good example is the case of Obolo Primary in Tanzania which got involved in the

environmental competitions with the schools in the programme after emulating Chereche Primary. In similar light, at least 5 extra schools per programme school were reported to have emulated the cases of the programme schools in the three East African countries of Kenya, Uganda and Tanzania. This resulted in more than 160 schools incorporating ESD in their systems. The implementing partners, notably Nature Uganda and WWF Tanzania were also inundated with requests from schools that wanted to be part of the programme.

LVCEEP has attracted additional development partners in schools

The success of the schools in the Lake Victoria Catchment Environmental Education Programme has elicited interest from other stakeholders. For example in Lieta Kabunde Primary School in Kenya, Plan International got impressed by the efforts that had gone into the greening initiative and chose to sponsor the construction of permanent buildings in the school. Additionally, a boy from Lieta Kabunde Primary Schools was also chosen to be the President of the Global Tree Movement after his environmental poem was voted the best and published. Another example is that of Bunda Practicing School in Tanzania which has attracted the interest of the Baptist Church which in turn has provided the school with water tanks fitted with bio-filters. UNDP has also gotten attracted and linked the school with Kamatek who built for them an energy saving stove. Still in Tanzania, Weigita Primary School has attracted the attention of the Ministry of Education (MoE) which has constructed permanent buildings for the school.

Geographic and thematic scope of LVCEEP expanded

The LVCEEP programme has expanded its geographic and thematic scope and is reaching out to about 15 new schools and communities. This initiative has increased multiplier effects of ESD best practices where teachers and pupils transfer the learning to their households and neighbouring communities. As a result, the target riparian communities and schools now have a better understanding of environmental issues and their links to social and economic issues and are generally positive to environmental conservation and especially the link to the Lake Victoria catchment.

School children have understood and continue to get to understand the rationale for conserving freshwater ecosystems and other natural resources and the linkage between natural resource management and sustainable livelihoods.

Through school activities and other outreach activities organised by LVCEEP, school children have been able to understand the importance of conserving freshwater ecosystems and other natural resources as well as their link with sustainable livelihoods. The introduction and launch of the ESD Day has been quite instrumental in enhancing this understanding and raising awareness.

The ESD Day Celebrations, 2009

In 2009, LVCEEP successfully organised an ESD-Day in all the three project areas; Kisumu, Musoma and Masaka in Kenya, Tanzania and Uganda respectively. The aim was to raise public awareness on the importance of ESD in sustainable conservation and management of the Lake Victoria. The theme of the ESD Day in 2009 was: “Living together with one planet”. The overall objective was to highlight the importance and role of education for sustainable development to individuals, schools, communities and societies. It focused on school children and community members and provided an opportunity to publicise the work and initiatives of the schools working with the Lake Victoria Catchment Environmental Education Programme of WWF.

The ESD Day celebrations have proved to be a good motivator for student's engagement in ESD – and this inspired an even bigger ESD Day in 2010.

Regional ESD Day launched in 2010!

The Lake Victoria Catchment Environmental Education Programme (LVCEEP) launched a regional Education for Sustainable Development (ESD) Day on July 2, 2010 at Kisumu Girls Secondary School. This brought together participants from Kenya, Uganda and Tanzania in line with the trans-boundary nature of LVCEEP.



One of the banners that was displayed at the entrance of the venue of the ESD day

The ESD Day was also marked through a regional ESD competition under the theme “Coping and Lessening the Effects of Climate Change in the Lake Victoria Catchment”. Several Primary Schools, Secondary Schools and Primary Teachers Colleges participated in the competition. The objective was to raise awareness on the effects of climate change and create a forum for the students to give practical suggestions on how to cope with and lessen the effects of climate change. Schools and teacher training colleges in the Lake Victoria Catchment participated in this completion. The winners were presented with certificates and gift items. During the same ceremony, farming communities and community based organisations that had demonstrated best practices and innovations to promote sustainable development in the Lake Victoria Catchment were also presented with certificates of merit.



Students explain sustainable environmental management during an exhibition on ESD day



Participants at an exhibition stand.

Greening Initiatives continue to transform schools

LVCEEP has introduced and continued to support the greening initiatives in schools and communities across all the three East African countries of Kenya, Uganda and Tanzania. The greening initiatives started in Phase 1 have since been up-scaled in Phase 2. The schools that had earlier implemented the greening initiatives are adding more



initiatives and the new schools have started implementing some greening initiatives. The schools that pioneered and successfully implemented the greening initiatives are now acting as demonstration centres for the new ones and also a learning example for the neighbouring schools who are copying what the LVCEEP schools are doing.



Woodlot at Ndurio Primary School.

To support the greening initiatives, LVCEEP has provided schools with gardening tools such as wheelbarrows, spades, rakes, soil tillers and garden scissors.

Under the Greening Initiative, schools have since established live fences which will minimize trespassing into school compounds as well as minimize destruction of plants and other items in the school environments by livestock. In Uganda many schools are being transformed into 'talking environments' with the intention of making the schools visitors' centres. A notable example in Uganda is the case of Butende Primary School which has developed a small wetland with papyrus in the school yard to promote the understanding of the importance of wetlands. The LVCEEP Project Executants and teachers are helping the learners to build their confidence and competence in guiding visitors.

Additionally, the LVCEEP is contributing towards the restoration and increase of the forest cover in the Lake Victoria catchment across the East African countries of Kenya, Uganda, and Tanzania through the production of seedlings in the project schools. These seedlings have been distributed and planted into other schools' and communities' environment. Notable examples include Kirumi Primary School and Tairo Primary School which have been producing an average of 5000 and 10000 seedlings respectively each season. The tree planting activities in schools have led to beautification of school environments with several other beneficial impacts being reported. For example, the increase in school enrolment at Kirumi Primary School has been attributed to



the beautification of the school environment hence transforming it into a speaking environment.

Besides beautification, the school has been transformed into a visitors' centre and the pupils' competence in guiding visitors has remarkably improved.



Student explains about the tree nursery managed by their class.

Further, LVCEEP's support to Kirumi Primary School to fabricate an energy saving stove has enabled the school to provide boiled water to the whole school population – this has a great potential to reduce water borne diseases. The pupils are able to disseminate the innovation to their homes and as a result more households are using energy saving stoves.

In general, the greening initiatives have proven to be very important for the motivation of all participants across the Lake Victoria catchment in Kenya, Uganda and Tanzania. It has increased the action competence of the students to implement hands-on solutions. The greening initiatives have also created an opportunity for students to understand the effects of such activities on the Lake Victoria Catchment both within their locality and also upstream and downstream in other areas in relation to the Lake Victoria catchment that covers most of the East African region. This has been exemplified by students as they discuss and guide visitors in their schools to demonstrate their greening initiatives.



Enhanced action learning and research in schools

Action learning is one of the ESD based methodologies which LVCEEP has been promoting in schools. It provides for learning through practice and at the same time solving problems in context.

Enhanced income generating activities in schools

LVCEEP has supported income generating activities in schools. The income generating activities also act as teaching and learning resources in schools besides promoting entrepreneurship. Some of the income generating activities include beekeeping.



LVCEEP has supported beekeeping as an income generating activity at Ndurio Primary School by supplying modern beehives

Supporting development of skills and values in schools

LVCEEP has supported the development of appropriate skills and values among students in schools by promoting learning activities such as art and craft in schools. LVCEEP has further been organising exhibition events for the students to exhibit their skills, creativity and talents by displaying their work.

Policy and curriculum development

LVCEEP has been able to sensitize and build the capacity of policy makers, curriculum developers and the core-team members in Education for Sustainable Development (ESD), policies, as well as share a common understanding and attributes of ESD. This is in line with the main focus of LVCEEP, more so in the second phase during which it was planned that LVCEEP would lobby and advocate for the inclusion of Education for Sustainable Development into the main themes of the formal education curriculum. The Regional ESD Policy Workshop that took place on the 17th-18th September 2009, at Sunset Hotel in Kisumu made a very useful contribution in this regard. During this regional policy workshop, the participants reviewed the school curricula and identified the gaps and opportunities in relation to EE/ESD, from which they developed action plans to carry out similar workshops at the national level, in order to sensitize the curriculum developers and examiners in their respective countries on the need and importance of ESD and reorientation of curricula and syllabi.



LVCEEP has since organized ESD curriculum re-orientation workshops for the national curriculum centres in Kenya and Tanzania. A curriculum analysis to assess the status of ESD in the curriculum and other policy-related documents was carried out for Kenya, Uganda and Tanzania in May 2010. The finding's recommended the need for more advocacy work on ESD in the region.

NON- FORMAL EDUCATION

Riparian communities have and continue to achieve capacity to conserve and sustainably manage natural resources within selected sites of the Lake Victoria catchment and best practices have spread in the wider areas.

Through LVCEEP, the riparian communities and stakeholders have understood the link between the environment, economy and society and have adopted sustainable farming practices and environmental friendly livelihood initiatives, such as mushroom growing and fruit tree growing which has subsequently increased farm produce and improved household income.

Communities have adopted sustainable farming practices and environmentally friendly livelihood initiatives

Through training by the LVCEEP, riparian communities have been able to to adopt sustainable farming practices and environmentally friendly livelihood initiatives, such as beekeeping, fish farming, mushroom growing poultry and craft making hence contributing immensely towards improved household income. Training of the riparian communities and stakeholders on the linkages between the environment, economy and society has particularly been instrumental to achieving this.



Community fish pond in Nandi, Kenya.



Community Member with her Hybrid goat in Masaka, Uganda .



Crafts Made by Kibouki Women's Group in Musoma, Tanzania.

Additionally, the community-schools networks formed in Tanzania, Kenya and Uganda have facilitated effective and joint implementation of greening initiatives, including the establishment of tree and vegetable nursery beds. The seedlings are being shared with the neighbouring communities thus contributing significantly in combating soil erosion and deforestation.

Clear linkage between natural resource management and sustainable livelihoods

Schools and surrounding communities now understand the linkage between natural resource management and sustainable livelihoods. Communities are also able to plan and implement their micro-finance projects activities for Income Generation whilst conserving their immediate environment at the same time. It is worth mentioning that communities in Pemba (Tarime district) and Dett in Rorya district have been empowered on environmental conservation for sustainable development through training and study exchange visits respectively.

Exchange visits enhance learning amongst communities

Through the regional exchange visits between the communities in Uganda and Tanzania, Dett community have been trained by their Uganda counterparts on productive bee keeping and honey packing for value upgrading. They have now improved their beehives by increasing the number of modern beehives and they are using gadgets like smokers to collect honey smoothly and hygienically. Two fish ponds with chicken sheds over the ponds which were constructed at Pemba community for integrated fish culture followed by training on fish culture techniques are well maintained by the community members. This innovative method will help the riparian communities to conserve and manage natural resources within their localities in a sustainable way and it is anticipated that such Income Generating Activities (IGA) will spread in the wider areas within the catchment.



*Communities from Tanzania on a Regional Exchange Visit to Homabay
Communities in Kenya.*

In Kenya, the project involved the Maasai community in ESD training in Transmara District. The community was exposed to various ESD initiatives that they could carry out. These activities were geared towards increasing the honey production and exploring the possibility of starting biogas production. The biogas project will complement the



energy stoves that are being used by most households and it has also eased the burden of firewood cooking.

Environmental conservation and management takes shape

In Uganda, the community groups in Kaswa, Bisanje, Gulama and Kanabulemu have demonstrated the ESD aspect of 'Taking action towards environmental conservation and management' quite effectively thereby making a tremendous contribution towards soil and water conservation initiatives. The communities have been facilitated by the LVCEEP programme to practice mulching, tree planting and to dig trenches across the hills to control soil erosion and to restore the degraded feeder roads. The community members now have a good understanding of the importance of wetland conservation and are fully taking charge in community policing. Additionally, the community in Uganda has successfully managed to remove wetland encroachers who were mainly the cattle keepers from Bisanje – Ggulama. The wetland has now been restored and acts as a demonstration site for the communities around the wetland area.



Community member in Homabay displays her tree nursery, Kenya.

Local and regional exchange visits boost sustainable conservation and environmental management

LVCEEP organised both local exposure trips and regional exchange visits between the local communities from Katonga River Basin (Kyenjojo and Masaka) and Tanzania communities to help enrich their understanding of different ways communities in other countries engage in sustainable conservation and environmental management to achieve a common goal of conserving the Lake Victoria basin. The communities have been involved in the regional exchange visits and dissemination meetings held for those who visited Tanzania to share experiences with those that did not travel as way of ensuring that every member of the community benefited from the exchange visit.

The diverse micro projects by the communities have provided alternative livelihoods for the communities. The communities involved have stopped encroaching on wetlands and this has helped in the conservation of the Lake Victoria catchment.



Negative environmental practices have reduced

LVCEEP has significantly contributed to the reduction in some retrogressive environmental practices. A case in point is its influence on target community groups to stop cultivation and grazing of livestock in the swamps and riverine areas through environmental education messages, which upon internalization by the communities led to the discarding of these negative practices. This was seen in Ndurio and Enego communities in Nandi hills of Kenya and Kaswa Community in Masaka Uganda. The improved energy saving stoves have also resulted in the reduction of deforestation. Additionally, the discharge of harmful fertilizers into the wetland has ceased due to the influence of the LVCEEP.

Increased afforestation

After the trainings organized by LVCEEP, communities have embarked on a massive afforestation programme. Consequently, individuals have planted trees in their homesteads for shade, fuel wood, fruits. Additionally, community groups have planted trees in the wetlands in order to rehabilitate them. For instance, by the end of the first phase of LVCEEP's implementation, each community group had planted in excess of 3,000 trees. In a bid to promote the cultivation of indigenous trees with good traits, communities began to cut down exotic trees such as the Eucalyptus species which drain swamps and were replacing them with indigenous species which also enhance biodiversity.

The key result from this initiative is that hill tops are now under conservation of the community groups and vegetation has regenerated. Remarkable examples include Buswahili, Weigita, and Pemba communities in Tanzania. Communication keep beehives on these hills and can attach economic value to conservation.



An adjacent hill (not conserved)



Hill conserved by the Dett Community

Increased water recharge has been realized

Due to lack of cultivation in the wetlands and the cutting down of water loving (draining) species, the water levels in the wetlands has increased for usage by the community members. Remarkable examples include Ndurio and Pemba communities in Kenya and Tanzania respectively which have since got adequate water for their domestic use and livestock.

In Ndurio community the increased volume of water led to an influx of people at the protected spring forcing the community to consider pumping water out of the spring to the surroundings in order to alleviate pressure at the source.



Biodiversity has flourished

LVCEEP can be credited for contributing to the increase in biodiversity in the wetlands in the Lake Victoria catchment. This increase in biodiversity has been characterized by the return of threatened species such as the Crowned Crane to the Ndurio and Enego swamps, an increase of Sitatunga and snakes in the Katonga Wetlands amongst other species .

Communities have successfully transited to alternative livelihoods

LVCEEP undertook to expose communities to alternative livelihoods as a strategy of getting them to stop degrading the wetlands. This proved very successful as charcoal burners had to change into bee keepers, fish farmers and tree seedling growers.

It was reported that mid-term in the implementation of the first phase of LVCEEP, communities in Pemba and Weigita in Tanzania had already sold honey, trees seedlings and fish and were satisfied with the income. In addition, some community members are now generating income (being facilitators and consultants to other communities). This includes training on making of energy saving stoves as seen in the Kaswa Community Group in Uganda, skills in organic farming as seen in the Bisanje Community Group in Uganda, among others.

Community livelihoods improved in the Lake Victoria catchment

Through capacity building and the development of income-generating micro-projects, the LVCEEP Programme has continued to improve the livelihoods of the communities in the Lake Victoria catchment through capacity building and the development of income –generating micro projects, alongside conservation of the catchment basin.

Some of the notable developments include: Setting up of tree nurseries and tree planting in Musoma, the Kinesi, Dett and Matongo communities, poultry micro-projects in the Kinesi and Dett communities, and fish farming in the Pemba communities. Conservation activities include: conservation of leased hills by the Dett Community by preventing unsustainable tree cutting, quarrying and grass cutting whilst at the same time keeping beehives within the hill for honey production. Exchange visits between the communities has helped in information and knowledge exchange which has led to the replication of activities in other areas.

Energy used per capita has reduced

Through the LVCEEP initiative, the use of fuel wood has reduced considerably amongst the communities. This is mainly attributed to the use of the energy saving stoves. For example, it is reported that one head load of firewood in Nandi hills, Kenya now lasts for a week instead of a day as was the case before the introduction of the LVCEEP. It was reported that, mid-way during the implementation of the first phase of LVCEEP, one lady in Nandi Hills who was not part of the targeted community members had adapted the energy-saving stove in her own style said that she would not need to fetch firewood for the rest of that year because two firewood pieces were enough for the whole day. In Uganda, it is reported that communities that used to buy firewood worth Ushs 1,000 per day, now buy it for Ushs 100 per day.

Community environmental groups have emerged

After the ESD training by LVCEEP, most communities have formed and registered environmental groups. These groups have since embarked on educating the larger communities on environmental conservation, afforestation, improved agricultural practices, energy saving and good waste management practices as their main roles. Community groups in Kenya have been also trained on how to write project proposals and they embarked on seeking funds from other donors by themselves. Examples of community groups that emerged out of the LVCEEP initiative include: Enego and Ndurio



Environmental Groups in Kenya, Kaswa and Bisanje Environmental Groups in Uganda, as well as Kikumawe and Nyangena Environmental Groups in Tanzania.

Skills and experiences transfer to schools and communities

Skills and experiences gained by communities from the exposure tours have been transferred to schools and other community members under the LVCEEP. For example, community members from Tanzania who went to Uganda on an exposure tour gained skills on better methods of establishing kitchen gardens and have since transferred these methods to schools such as Kirumi Primary School among others. Similarly, experiences gained by Ugandan communities on seeing energy saving stoves in use in Masailand in Kenya inspired them to improve on their design. Consequently, communities in Masaka developed a simple ordinary energy saving stove, a mobile stove and a commercial stove which bakes bread. Additionally, they designed a chimney which was moulded using banana stems. This contributed to the reduction of indoor pollution by removing the smoke through a chimney.

Better land utilization and agricultural practices adopted

Through LVCEEP, communities have been trained on how to maximize production on their pieces of land that had turned infertile due to poor agricultural practices. This in turn led communities to cease cultivation in the wetlands thereby conserving them. Additionally, communities have been able to improve the fertility of their soils through the use of organic manure (compost, plant tea, liquid tea). Further, communities have embarked on growing a diversity of crops such as fruits, vegetables, and cash crops which have significantly enhanced their nutrition status and their incomes. The key result is that communities are able to produce more food in their small farms as compared to when they were cultivating in the wetlands.

Multiplier effects realized

It has since emerged that, for every community that has been involved in the programme there is at least one other community that has emulated their example. For example in Nandi Hills, Sitoka community has emulated Ndurio community and in Tanzania, Sang'anga community emulated the example of Pemba community. It has been remarkably noted that the energy saving stove has elicited more than 100% multiplier effect.

MATERIAL DEVELOPMENT

Resource materials on low-cost water treatment

LVCEEP has been able to produce about 4 000 copies of resource materials on low cost treating of drinking water in Kenya, Uganda and Tanzania. The materials have been produced both in English and local languages so as to provide information to schools and the wider public on low cost treatment of drinking water and sustainable use of forests and natural resources at large.

ESD guide book and theme poster calendar

In Kenya, an ESD guide book has been developed and distributed to the stakeholders and schools. In Uganda, theme poster calendar has been developed with the help of Core team members selecting posters from student's art pieces during the ESD day celebration exhibition.

About 3 000 copies of 2010 calendars were produced and printed. The purpose of the year calendar was to disseminate and share information about EE and ESD and other core environmental issues. The 2010 calendar also served to provide EE and ESD information for sustainable management of natural resources and with messages on



how the public can manage and wisely use resources at home, workplaces and in the community/society.

ESD messages in the media

In regard to electronic resources, radio programmes with ESD messages in English and local languages were designed and produced for dissemination via the radio. The purpose of the messages was to create more awareness on ESD to a wider society and community through the radio media. In Uganda the EE/ESD messages were designed and featured on National Television for 3 days with the aim of creating awareness about the LVCEEP activities and EE/ESD in schools and community.

A Radio talk show on Radio Buddu FM was organised together with the Masaka district. The focus of the discussion was on wetland uses and wetland conservation in collaboration with local communities. The participants included LC3 Kabonera subcounty, District Environment officer and Wetland Officer, Masaka and Nature Uganda.

Other radio talk shows have been held on Radio Citizen with frequencies in Kenya, Uganda, Tanzania and Rwanda, and on Radio Free Africa covering the entire Tanzania.

Relevant Swedish ESD materials adopted for use in East Africa

An East African version of Learning Sustainable Ways (produced by WWF Sweden) has been produced. It explains the concept of ESD. Additionally, a draft ESD methodology material was also developed and printed in 2010 with the support from WWF Sweden.

Key achievements

- Termly LVCEEP e-newsletter has been published.
- Low Cost Water treatment poster has been produced and distributed to schools: 2,000 copies were distributed in Kenya, 1,000 copies in Tanzania and 1,000 copies in Uganda.
- 2,000 copies of Environmental Education books have been distributed in Tanzania.
- Radio messages aired in three radio stations to cover the East Africa region

NETWORKING

In regard to networking, LVCEEP has been able to develop and operationalise a practical partnership building mechanism for ESD delivery with and among key stakeholders.

Active partner engagement

LVCEEP has and continues to actively engage partners including Nature Uganda and Wildlife Clubs of Kenya in implementation of the project activities. At the national level, LVCEEP has formed a core team network to spearhead the EE/ESD trainings in schools and communities. The core team participates in annual Regional core team trainings organised by WWF Sweden and WWF-ESARPO.

Government and NGO stakeholders in Regional Advisory Committee

The Regional Advisory Committee II (RAC) is one of the structures that has been established by WWF- LVCEEP II to enhance participatory implementation and monitoring of the Lake Victoria Catchment Environmental Education Programme.

The RAC now comprises of stakeholders from the government and NGO sectors. The roles and responsibilities of all key players in overall Project management are well defined. RAC is also comprised of members from each of the four countries that the Programme is working with i.e. Kenya, Uganda, Tanzania and Rwanda.



The overall aim for the formation of RAC is to establish linkages between ESD practitioners and Actors in the Lake Victoria and the Eastern Africa region as a whole. This is in attempt to ensure that the capacity of the implementing partners is built through networking with other regional partners to avoid duplication of work.

PROGRESS

Exchange visits are enhancing information and knowledge exchange which has led to the replication of activities in other areas.

Kenya

- Exchange visits between Nandi and Homabay has led to the communities being exposed to diversified farming activities
- Training on fish farming was conducted during a visit to Siaya by the communities. These communities also learnt about the impact of HIV/AIDS on development and how the Siaya community was addressing HIV/AIDS.
- The Maasai community in the Transmara region in Kenya have been trained on increased honey production technologies, with the Maasai women packaging and selling the honey to tourist lodges.

Uganda

- 12 model communities have been trained on mushroom growing. This has included aspects of marketing and simple record keeping technologies.
- Exchange visits have also facilitated the exchange of information and capacity building on craft making and mushroom growing between different communities.

Tanzania

- Exchange visits between the Dett Community in Tanzania and Uganda has helped them learn about improved techniques on bee keeping and improved honey harvesting techniques like the use of smokers to harvest honey more smoothly and hygienically.
- Exchange visits have also helped to promote regional information exchange and capacity building among communities for their benefits and also for conserving the Lake Victoria catchment.

SPECIFIC OUTCOMES IN THE RESPECTIVE COUNTRIES

Tanzania

- Grevillea trees in Buhemba Primary School in Tanzania are now being used to make desk fabrications and roof palings.
- Kirumi Primary School in Tanzania is providing boiled water to the entire school using energy saving stoves thereby contributing to the reduction in water borne diseases.
- Kiwade and Kibouki Communities in Tanzania have stopped cultivating on the shorelines of Lake Victoria.
- The community conservation banks introduced in Musoma Tanzania will help alleviate poverty.



Uganda

- Integrity of the Katonga River Basin in Uganda has been enhanced by the designation of wetland to the south on Nabajjuzi Tributary as a Ramsar site.
- LVCEEP has inspired Ugandan project schools to adopt the Locally Relevant Themes (LORET) approach to curriculum design. This has particularly taken root in Kayunga Secondary School, Butiiti Primary Teachers College and Kisojo Primary School.
- The value addition for income-generating products by communities has led to market expansion abroad.

Kenya

- The adoption of eco-jiko in South Nandi in Kenya has reduced destruction of forests and trees thereby helping improve on family livelihoods as women now focus less on collecting of firewood but engage in other livelihood activities instead.
- The use of fireless cookers has helped conserve energy.
- Partnerships between communities and Private Sector has helped provide stable income for communities e.g. honey supply by the Maasai community to tourist hotels in Transmara.
- Increased food security has been realised in Nandi Hills through diversified organic farming.
- The introduction of ESD villages will bring about positive social transformation and sustainable living.



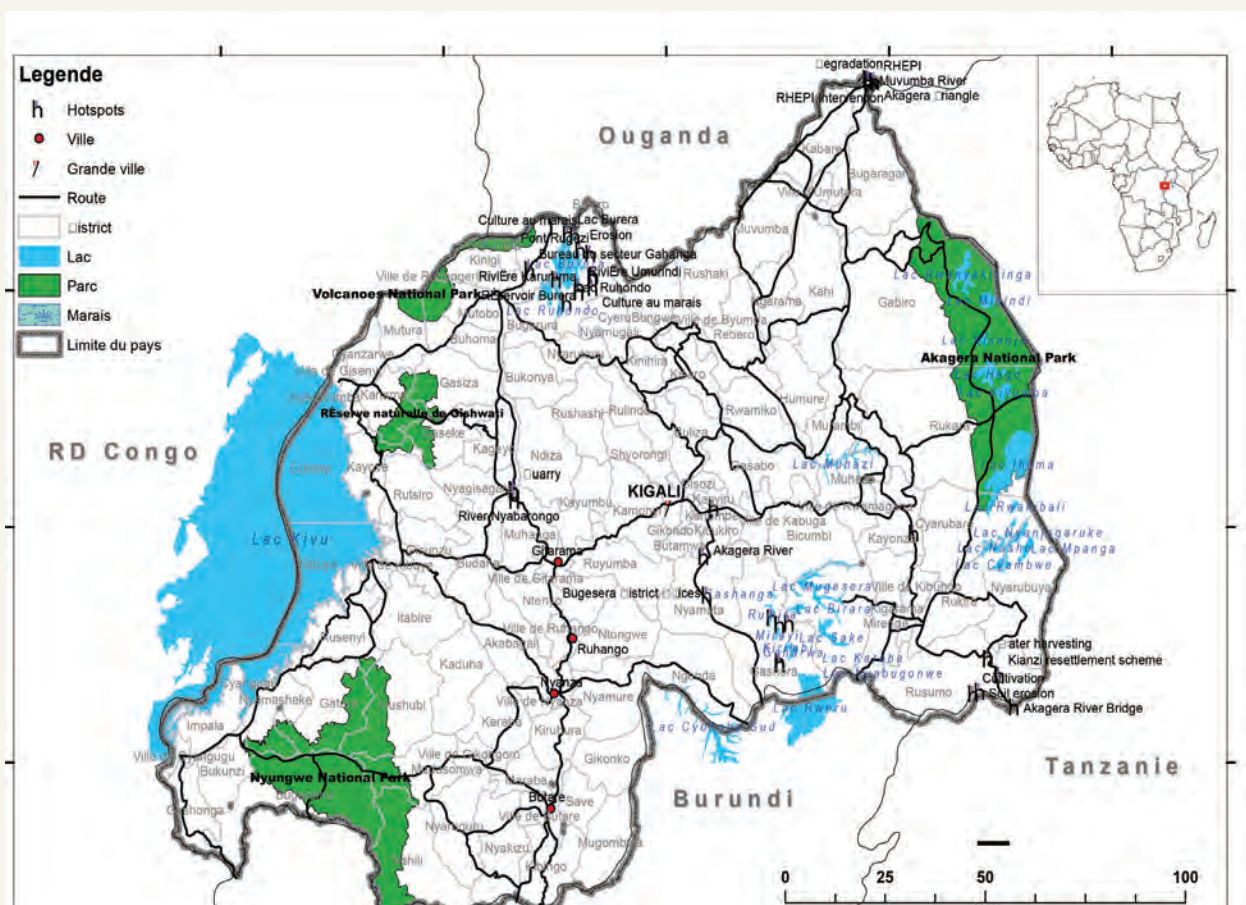
LVCEEP EXPANDS INTO RWANDA

The mid-term review of the first phase of the Lake Victoria Catchment Environmental Education Programme (LVCEEP) recommended that the second phase of the programme incorporates Rwanda. This was primarily due to recognition of Rwanda being an important part of the Lake Victoria catchment, its rich biodiversity, high poverty level and lack of effective EE/ESD interventions to respond to emerging environmental issues affecting the Lake Victoria Catchment basin.

The year 2010 saw LVCEEP finalize plans to expand into Rwanda with a few start-up activities. This started with site identification in both the upper and lower catchment of the Kagera River in Rwanda. In the Upper Catchment, Muhanga District was included in the site identification while, Bugesera District, Nyagatare District and Kirehe District were included in the Lower Catchment.

Potential key partners were also identified and analysed during a stakeholders' workshop and consultative meetings. The Ministry of Education, Rwanda National Commission to UNESCO, Rwanda Environment Management Authority (REMA), Nile Basin Initiative (NBI), SIDA-Rwanda, and Rwanda Environmental Conservation Organization (RECOR) have been identified as important partners for LVCEEP in Rwanda.

A baseline survey has also been conducted in Rwanda and a monitoring framework with indicators has been developed.



Map of Rwanda showing the identified hot spots where LVCEEP will operate in



NOTABLE OUTCOMES AND IMPACTS OF LVCEEP IN 2010

- Increased school enrolment has been reported in the model schools.
- School – community links have been strengthened.
- National governments are now more committed to support LVCEEP.
- Schools self-assessment tool has been finalized, shared and is currently in use. The tool has also been translated into Kiswahili for wider use in Tanzania.
- LVCEEP's ESD approaches have spread into other schools (other than the core project schools).
- Project activities have been streamlined and mainstreamed in district and country development plans through participation in government meetings at local and national levels.
- Increased income has been reported for all communities through the eco-friendly income generating activities (IGAs).
- LVCEEP's profile has been enhanced through media programmes in Kenya, Uganda and Tanzania as well as in a national daily newspaper in Uganda.
- A regional ESD network for the Lake Victoria Basin has been established.
- Partnerships have been strengthened in the East Africa Community with a regional ESD Day being observed annually
- LVCEEP expands into Rwanda!



SUSTAINABILITY ACTIVITIES & IMPACTS

Securing the ecological integrity and sustainability of the Lake Victoria catchment for the benefit of its inhabitants and biological diversity.

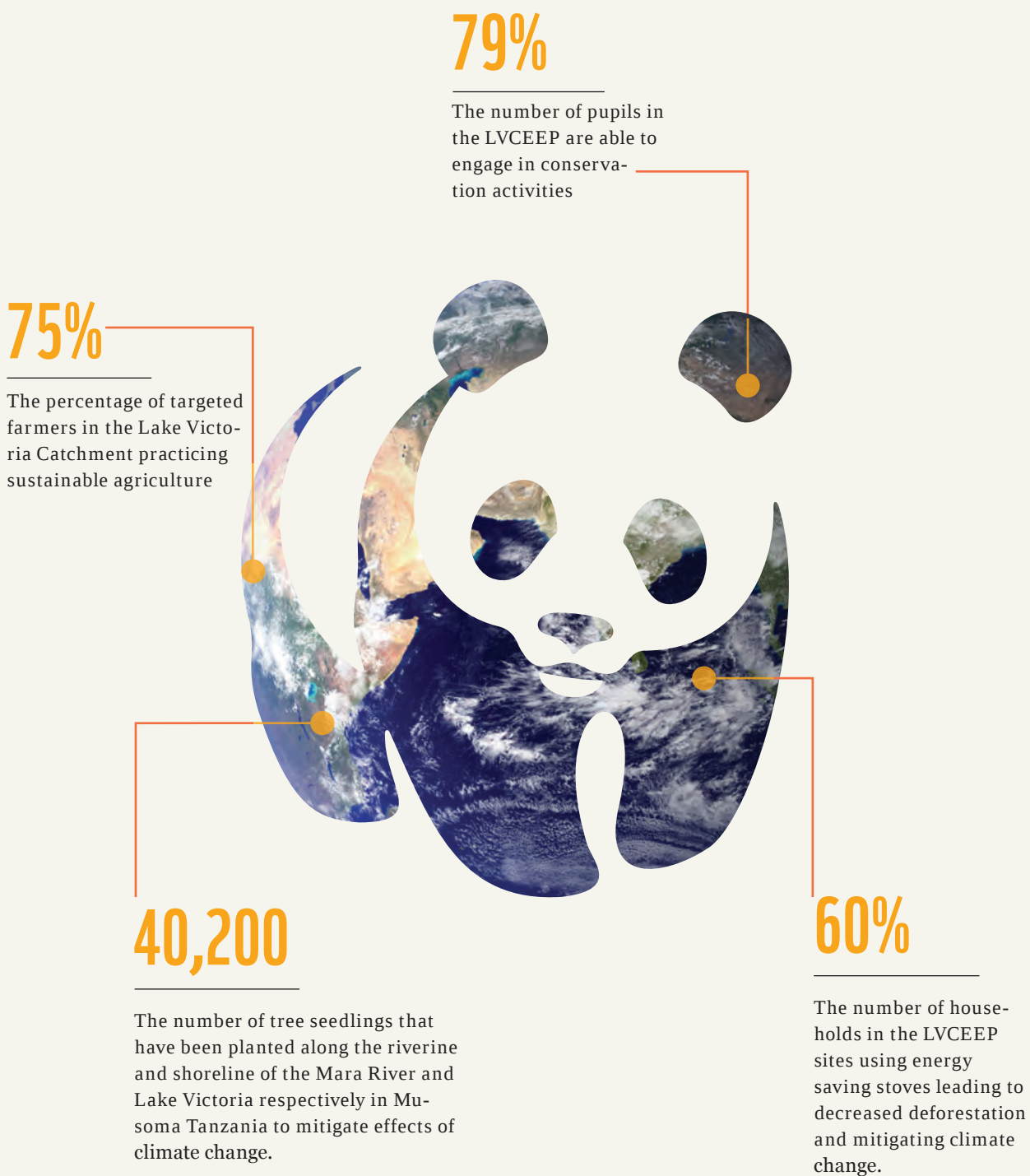
Given the benefits that have been realized under the LVCEEP, it is imperative that its activities are sustained by the beneficiaries. Regeneration of the wetland environments and change in attitudes and behavior of communities who are the main cause of environmental degradation are some of the key gains that need to be sustained through continuity of the relevant activities.

To ensure sustainability, LVCEEP has put in place a mechanism for continuous monitoring of activities, provision of technical advice and training of and by the implementing institutions.

LVCEEP has also ensured sustainability by contributing with infrastructural development in schools and communities. These developments include: the protection of springs, provision of water tanks, soil erosion control and greening efforts by supplying wheel barrows, spades, watering cans amongst other equipment.

Ownership of the programme and impacts by the target beneficiaries (schools and community groups) is another key ingredient for ensuring sustainability in the LVCEEP programme.



**Why we are here**

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

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