Sida Evaluation 07/18

# Lake Victoria Catchment Environmental Education Programme (LVCEEP), Support to World Wide Fund for Nature (WWF)

**Final Report**

**Irene Karani**
**James Ndung'u**

**Department for Africa**

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Sida Evaluation 07/18
Commissioned by Sida, Department for Africa



Registration No.: U 11 Ya/13.3 LVI WWF
Date of Final Report: April 2007
Printed by Edita Communication AB, 2007
Art. no. Sida38692en
ISBN 978-91-586-8225-2
ISSN 1401—0402

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# Abbreviations

| | |
|---|---|
| 4WD | Four Wheel Drive |
| AFEW | African Fund for Endangered Wildlife |
| CCT | Centre Coordinating Tutors |
| EAC | East African Community |
| EARPO | East Africa Regional Programme Office |
| ECOVIC | East Africa Community Organization of Lake Victoria Resource Management |
| EE | Environmental Education |
| ESD | Education for Sustainable Development |
| FGD | Focus Group Discussion |
| HIV/AIDS | Human Immuno-Deficiency Virus/Acquired Immune Deficiency Syndrome |
| IGA | Income Generating Activity |
| KOEE | Kenya Organization for Environmental Education |
| KWS | Kenya Wildlife Service |
| LC5 | Local Council 5 |
| LVCEEP | Lake Victoria Catchment Environmental Education Programme |
| LVEMP | Lake Victoria Environmental Management Programme |
| M&E | Monitoring and Evaluation |
| MDG | Millennium Development Goals |
| MOE | Ministry of Education |
| NBI | Nile Basin Initiative |
| NELSAP | Nile Equatorial Lakes Subsidiary Action Programme |
| NGO | Non Governmental Organisation |
| PTC | Primary Teachers College |
| Sida | Swedish International Development Agency |
| TEEP | Tanzania Environmental Education Programme |
| TOR | Terms of Reference |
| UWEC | Uganda Wildlife Education Centre |
| WCK | Wildlife Clubs of Kenya |
| WCU | Wildlife Clubs of Uganda |
| WID | Wetlands Inspectorate Division |
| WWF | World Wide Fund for Nature |

# Acknowledgements

The reviewers wish to thank the World Wide Fund for Nature (WWF) Regional office in Nairobi and Tanzania office, Wildlife Clubs of Kenya (WCK) Kisumu Office and Nature Uganda for facilitating logistics and travel arrangements in Kisumu, Homa Bay, Nandi Hills, Musoma, Tarime and Masaka. In particular gratitude goes to Susan Matindi (WWF EARPO), Edward Mwendwa (WCK), Enock Chengullah (WWF Tanzania) and Ada Nshemereirwe (Nature Uganda). The efficiency in which our work plan was handled from country to country is commendable.

The reviewers also express gratitude to all the groups and persons met during the course of this review. These groups ranged from teachers, school children, community groups and individuals who have been involved in the programme. These groups spared their time to answer questions of the reviewers and their input forms the bulk of this report. We were very impressed with the enthusiasm of the beneficiaries over their roles in the programme.

This review encompassed a large geographical area with several different stakeholders and its execution would have been very difficult had it not been for the collaboration and cooperation exhibited by all. We have learnt a lot from all the actors and stakeholders whose efforts in environmental conservation will greatly contribute to the sustainable development of the targeted communities and the conservation of Lake Victoria.

# Executive Summary

This review of the Lake Victoria Catchment Environmental Education Programme (LVCEEP) was conducted by Kesarine and Associates and Eco-Conquest Africa from May 17th to June 17th 2007. It involved traveling and visiting project sites in Kenya, Tanzania and Uganda and holding discussions with the beneficiaries.

Overall programme performance *was rated good* despite the various challenges.

## Programme Background

The programme began in 2004 out of a need to conserve the Lake Victoria's ecosystem by addressing the environmental problems in the catchment area shared by Kenya, Uganda and Tanzania.
The outputs of the programme were:

1. 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.
2. Education materials to support formal and non-formal environmental education and awareness initiatives developed and disseminated in selected sites.
3. School children understand the rationale for conserving freshwater ecosystems and other natural resources and the linkage between natural resource management and sustainable livelihoods.
4. Riparian communities achieve capacity to conserve and sustainably manage natural resources within selected sites of the Lake Victoria catchment.
5. A practical partnership building mechanism for EE delivery with and among key stakeholders developed and operationalised.

The programme was designed as a pilot and implemented by Wildlife Clubs of Kenya, Nature Uganda and WWF Tanzania Environmental Education Programme (TEEP) in Kenya, Uganda and Tanzania respectively under WWF EARPO. The programme implementation sites were spread over seven districts in the three countries. The main target groups were primary school pupils, teachers and communities and by the time of this review it had reached over 100,000 children, 600 teachers and 12,000 community members.

## Main Findings

- *Relevance:* The programme was found to be relevant to the needs of the target groups in the catchment area and it also contributed positively to the Protocol for Sustainable development of the Lake Basin of the East African Community *(Refer to sections, 2.1, and 2.7 respectively for details)*.
- *Project design:* The project design was found to be good technically. Its drawbacks were that it was not an all inclusive process and the financial resources were inadequate *(Refer to section 2.1.2 for details)*.
- *Implementation performance:* This was found to be fair because at the beginning there were many teething problems, the project executants were not conversant with the log frame, the project was in fits and starts, leading to poor planning with stakeholders. But once these problems were ironed out the programme was implemented more efficiently. In addition the approaches used i.e. capacity building in EE and the greening initiatives elicited a lot of impact in the target area *(Refer to 2.2 for details)*.
- *Effectiveness:* Three out of the five outputs were largely achieved with output two having a low achievement rate and output five being fairly rated *(Refer to 2.3 for details)*.
- *Programme monitoring:* This was found to be fair as activity monitoring was well done but impact monitoring was poorly done due to lack of good baseline information and a monitoring framework *(Refer to section 2.2.5)*.
- *Impacts:* These were found to be very good both at school and community levels. This is because catchment rehabilitation has begun, wetland degradation is reducing and the attitudes and behaviours of the target groups towards environmental conservation have changed positively *(Refer to section 3.0 for details)*.
- *Sustainability:* This was rated between good and fair as the structural framework that will enhance sustainability of activities and impacts has been laid down with the target groups but whether this will be enhanced after the exit of the programme remains to be seen *(Refer to section 3.3 for details)*.
- *Networking with various partners:* This was found to the good in all the three countries. There was good collaboration with government institutions and other like minded stakeholders. However there is still room for improvement *(Refer to section 2.2.4)*.

## Strengths

- There was strong synergy between the target schools and their communities with the strongest link being the children.
- Relevance of the programme was high as there was a dire need of environmental conservation in the schools and communities in the geographical area.
- Linkages between the Lake and the catchment areas were made and understood by the target groups.
- Theory and practice approach to delivering the EE message was good.
- Participatory methodologies and learner centered approach had a lot of impact on the students.
- Schools are now self sufficient in food due to diversified agriculture.

- EE enhanced academic performance in schools.
- EE delivery was used to deliver other cross cutting issues such as gender, HIV/AIDS and poverty.
- The whole school approach was a great strength of the programme.
- The programme was well timed as the transition from EE to Education for Sustainable Development (ESD) was taking place in the region at the same time.
- Exchange visits created a lot of impact.
- There was good involvement of the Ministry of Education in Tanzania and Uganda.
- Content of the training courses was suitable to the target groups, applicable and adaptable.
- In Tanzania there was strong collaboration between the Mara River Basin Management Initiative and LVCEEP.
- Activity monitoring was very strong.
- Best practices and lessons from TEEP were incorporated into LVCEEP.
- The link between the social, economic and environmental aspects of livelihoods was very well exemplified.
- Good balance of software (capacity building) and hardware (infrastructural development).
- All the implementing institutions were technically competent to implement the programme.

## Weaknesses

- Proposal writing did not include the project executants resulting to teething problems.
- Inadequate funds for human and material resources e.g. 4WD vehicles.
- Baseline surveys not uniform and whatever information that was collected was not thorough.
- Lack of monitoring frameworks based on the baseline.
- Lack of monitoring environmental and livelihood changes.
- Insufficient integration between the three countries (teachers and pupils).
- The impact on the Teacher training colleges was the weakest due to the high turnover of students.
- Capacity building for the implementing institutions was lacking in the programme design.
- In Tanzania the project executant was not based on site.
- Overall material development was weak.
- Lack of a common EE policy across the three countries.
- WWF EARPO did not have a policy adviser who could have pursued the policy issues with the Ministry of Education.
- Main pollutants (industries) were not targeted.
- The poor people were targeted but the rich were not despite contributing a lot of pollution to the environment and the Lake.
- There were no teaching manuals for teachers in Kenya and Uganda.

## **Lessons Learnt** (refer to section 5.0)

1. All inclusive programme design: A programme can be saved from teething problems and budgetary constraints when the implementers and other stakeholders are involved in the programme design.

2. Baseline Surveys: It is beneficial to a programme to conduct a thorough baseline survey before the initiation of the project on which a monitoring framework can be developed.

3. It is important for the project executants to be located on site: This is because when they are on site close monitoring and technical advice to schools and communities is readily accessible and mistakes can be corrected in time.

4. Training schools and communities in EE using participatory methodologies and learner centres approaches is a powerful tool that can change attitudes and behaviour towards environmental conservation and development.

5. Development of EE Materials for different target groups is an important aspect of EE and ESD and should be considered for further funding and integration across the five East African states.

6. Environmental competitions are a big source of motivation between schools and communities and can accelerate changes in attitudes and behaviour.

7. The establishment of functional school environmental clubs can have a lot of impact on the environment. The clubs sustain the greening programme as well as become the avenues for inculcating and demonstrating environmental action and culture in schools.

8. Exchange visits are powerful tools in change of attitudes and behaviour: The exchange visits were very successful especially in skills and technology transfer.

9. EE is critical for academic improvement and for sustaining school activities. It improved school governance, academic performance, discipline and motivation at all levels in programme schools.

10. EE can be used as an approach to poverty alleviation and by extension the attainment of the Millennium Development Goals (MDGs): Through EE, organic farming which utilizes liquid and plant tea[1] and compost has resulted in significant increases in farm produce and income to communities.

11. Involvement of as many stakeholders as possible can enhance programme impact and sustainability of activities.

12. EE is a wholesome education approach that not only improves academic prowess of recipient groups but also touches on almost all other aspects of human welfare.

## Recommendations

- The *design of the second phase should include the implementing institutions* and beneficiaries if possible for greater ownership and participation.
- *A thorough baseline survey should be undertaken* before the next phase and a monitoring framework that will capture the ecological, economic, livelihood and behavioural changes should be developed.
- *The Whole School Approach using participatory methodologies and learner centred approaches is recommended* for the other phases of the EE and ESD interventions as it has a positive multiplier effect to the environment, academics and governance of primary and tertiary learning institutions

[1] Plant tea is an organic fertilizer made from smooth leaved and rough leaved plants. Liquid tea is made from animal droppings.

- *Capacity building and institutional support for implementing institutions should be provided for in programme design* and planning. This will ensure that the institutions have sufficient capacity for monitoring and sustaining the gains made by the EE interventions beyond the programme period.
- *Inter-country competitions:* These should be encouraged both at school and community levels. In addition the next phase needs to in build exposure tours for school children and teachers across countries in order to enrich their learning experiences.
- There is need to *draw guidelines for environmental clubs* for them to remain relevant beyond the programme period and to create a national and regional network for such clubs so as create synergy and standards of practice.
- There is need to *develop resource books and materials* for all social categories, groups, schools and institutions written in both national and local languages. These will create long term impact of EE and will sustain leaning across generations. Some of the materials should be posted on an EE website for the region for ease of access.
- *Natural water harvesting* should have a bigger focus in the next phase in order for the greening initiative to continue even during the dry seasons.
- Kenya and Uganda should make a concerted effort to *engage with curriculum developers and examiners s*o that EE becomes examinable at national level.
- There should be an element in the next proposal that will *enhance engagement with the media.* Uganda had radio programmes during this programme. However the best practices and success stories can be disseminated through both the print and electronic media.
- There is also need to *target the youth out of schools* for EE in order to enlarge the target group. This can be done by encouraging them to have enterprises that are connected to conservation of natural resources.
- There is need to *enlarge the geographical area* as the pilot has proved successful. This is because in some areas e.g. Katonga river basin and Ndurio wetlands not all communities and schools along the wetlands have been involved and this can reduce the impact of this programme in the long term.
- We recommend that a *cost-benefit analysis* to show the gains in the environment and people's livelihoods is conducted. After which the success of this programme now backed with empirical data be written up as a best EE practice, published and distributed locally and internationally for other environment and development agencies to learn and emulate.
- There is also need to *involve more stakeholders* in the geographical area such as the main pollutants of the lake e.g. industries, public health officials, LVEMP 2 and the Ministry of Environment, Lake Basin Commission. In this way the programme will be able to influence the working of others in an effective manner.

***Conclusion:*** The LVCEEP pilot programme was a success and should be replicated into a larger geographical area. Its' lessons and best practices can be used to influence the development of an EE policy in Kenya and have EE become an examinable subject in Kenya and Uganda. Other countries in Africa and the world can also benefit from the lessons of this programme.

# 1. Introduction

This Review was conducted by Kesarine and Associates (Irene Karani) and Eco-Conquest Africa (James Ndung'u) from May 17th to June 17th 2007. It involved travelling to project sites in Kenya, Tanzania and Uganda, visiting project sites and holding discussions with the beneficiaries and other stakeholders.

Overall programme performance in section 4.2 concludes that the programme *was good* despite the various challenges.

This report will detail the main findings in section 2.0, impacts and sustainability in section 3.0, overall programme performance in section 4.0, lessons learnt and recommendations in sections 5.0 and 6.0 respectively.

## 1.1 Background of Programme

The Lake Victoria Catchment Environmental Education Programme (LVCEEP) was implemented from April 2004 to April 2007. It was based on the need to conserve Lake Victoria by addressing environmental problems in the catchment area in Kenya, Uganda and Tanzania which is inhabited by 24–26 million people half of whom live in Kenya[2].

At the time coordinated conservation activities and approaches by conservation agencies was lacking at cross border level around the Lake Victoria catchment. The programme 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.

The programme has spent a total of *USD 610,308* out of a total budget of *USD 638,961*.

## 1.2 Programme Goals and Objectives

Below are the objectives of the programme:

*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:*

1. 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.
2. Education materials to support formal and non-formal environmental education and awareness initiatives developed and disseminated in selected sites.
3. School children understand the rationale for conserving freshwater ecosystems and other natural resources and the linkage between natural resource management and sustainable livelihoods.
4. Riparian communities achieve capacity to conserve and sustainably manage natural resources within selected sites of the Lake Victoria catchment.

[2] Government of Sweden Lake Victoria Strategy, 2004–2006.

5. A practical partnership building mechanism for EE delivery with and among key stakeholders developed and operationalised.

## 1.3 Target Beneficiaries

The programme targeted the following groups:

- 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.

The programme has benefited a total of 32 schools, more than 600 teachers, 15 communities, 250 tutors and school inspectors and more than 100,000 children and 12,000 community members both directly and indirectly.

## 1.4 Programme Implementation

This programme was implemented by three different agencies under funding from WWF Sweden whose donor was the Swedish International Cooperation Agency (Sida). WWF East African Regional Programme Office (EARPO) was the overall implementing institution with different partners namely: Wildlife Clubs of Kenya, Nature Uganda and WWF Tanzania Environmental Education Programme at the following sites:

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

All implementing agencies were targeted the same groups as outlined in section 1.3.

## 1.5 Constraints and Challenges Faced by the Programme

The project has undergone a number of challenges especially during the inception phase and they are as follows:

- The untimely death of the WWF EARPO Conservation Director in 2005 left a gap in programme implementation and direction.
- At the beginning there was no harmonized way of implementation thus each country interpreted the proposal in its own way. The programme was also implemented in four month periods twice and this meant that the project executants could not effectively plan with other stakeholders.
- Overall the project had a shortage of funds that led to constraints on the human and material resources of the implementing organizations.
- All the project executants were not involved in the design of the project and did not see the proposal until much later. This proved to be a challenge to them when it came to the implementation phase.

- In Tanzania, Teacher Training Colleges had a turnover of students annually and this proved a challenge to the programme as it was difficult to begin an environmental project in the colleges and see its impacts within one year. However the situation has now changed and students will be in college for two years from 2007.
- In Kenya the teachers could only be allowed for training for three days or two days during the weekend. This proved challenging when the training curriculum needed more days. Thus the teachers had to sacrifice their weekends.

## 1.6 This Review

The purpose of the mid-term review was to draw lessons from the experiences gained, which could be useful for future development of LVCEEP especially in areas where reorientation or change of approaches are required, and to provide recommendations on how to improve the process and institutional arrangements in the next programme phase. Specifically the review was to:

- Evaluate the overall achievements (successes and failures) of the LVCEEP since its start in November 2005 to April 2007, in relation to objectives, targets and plans and provide the likely causes of such results.
- Evaluate the outcome, impact, sustainability and indicative cost-effectiveness (by relating the activities/projects (and costs) compared to the outputs obtained) of activities.
- Review strengths and weaknesses and find lessons learnt of the current organisation and management of LVCEEP.
- Assess the institutional arrangements for the management, implementation and the M&E functions of the LVCEEP
- Review the Monitoring & Evaluation (M&E) functions of the LVCEEP.
- Assess the relevance of the LVCEEP in the newly ratified Protocol for the Sustainable Development of the Lake Victoria Basin and developments within the Lake Victoria Basin.
- Assess the sustainability of LVCEEP.

*The full Terms of References are in Annex 1.*

### 1.6.1 Review Methodology

The review methodology comprised of participatory methodologies and included literature review, Focus Group Discussions (FGDs), key informant interviews, field observations and documentation of best practices.

### 1.6.2 Literature Review

The consultants conducted a literature review of a number of documents in order to: understand the background of the project, the progress of project; challenges involved during implementation and establish review criteria. In addition the literature review was used to establish the relevant data and tools that will be needed to measure the progress based on the project's objectives. The literature reviewed included:

- The LVCEEP funding proposal and the phase two proposal;
- Progress reports from WWF EARPO, WCK, Nature Uganda and WWF Tanzania;
- Training reports;

- Capacity Assessment report;
- Participatory Rural Appraisal reports from WCK;
- EE materials from WWF Tanzania Environmental Education Programme;
- Posters from Nature Uganda;
- Financial reports from WWF EARPO for the different agencies.

### 1.6.3 Focus Group Discussions

Focus group discussions were conducted with school teachers, children and community groups such as the environmental conservation groups. These discussions provided insight into the level of programme approaches such as participation, coordination, monitoring and evaluation, impacts, sustainability as well as gave an overview on project achievements.

### 1.6.4 Key Interviews (see full list in Annex 2)

Information collected from these informants was expected to give insight into their roles in the programme; the main issues that contributed to the performance of the project e.g. design of the sectoral approaches used in the interventions, their roles and capacities in implementing interventions, their perspectives on the way forward, networking and collaboration between themselves and the implementing agencies. The interviews with individuals included: organization staff, school inspectors, partners such as National Environment Management Authority (NEMA) among others.

### 1.6.5 Field Observations

Field observations were carried out by the consultants during the execution of the review and recorded. This information was used in the verification of outputs and triangulation of data sourced from the literature review, FGDs and key informant interviews. It involved seeing the changes that had occurred at school and community levels especially under the greening initiative and rehabilitation of wetlands and degraded land. Photographs of some outcomes were also taken.

### 1.6.6 Feedback Meeting

A feedback meeting was held between the consultants, WWF EARPO and Sida representatives at Sida offices on the 18th June 2007. The comments made during the meeting have been incorporated into this report where appropriate.

## 1.7 Constraints of the Review

This review experienced the following constraints:

- Shortage of time: The sites were very many and the consultants were unable to visit all as only two days was allocated to each country. Hence only sampling was done.
- Again due to the shortage of time, the review had to take place during the weekends and thus the consultants were unable to meet with many partners such as the District Education Officers and other partners who were associated with the programme who could only be seen during the weekdays.
- Most of the evidence in this report is anecdotal as the programme was weak in reporting quantitative evidence. However even though the evidence is anecdotal it was cross checked by the reviewers and was found to be credible hence its use in this report.

# 2. Main Findings

This is the main part of report and will answer the questions asked by the TORs. It will discuss relevance, implementation strategy, efficiency, effectiveness and cost effectiveness, contribution towards the Protocol for Sustainable Development of Lake Victoria Basin and towards the Swedish Strategy for Poverty Reduction and Sustainable Development in the Lake Victoria Basin among others.

## 2.1 Relevance

Relevance determines whether the design of the project was originally sound as regards targeting the real needs and problems that the Lake was facing at the time.

### 2.1.1 Analysis of Problem

A thorough analysis of the problem was conducted in the preparatory phase[3] of the project and the problems were well articulated in the proposal. It is because of this analysis that the programme chose to concentrate on the catchment areas (along the river basins) as opposed to the Lake directly. Besides 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.

In addition the target beneficiaries i.e. the schools and the communities next to the wetlands had degraded their environment through bad agricultural practices and other production practices that were causing soil erosion, deforestation and pollution of the environment (land, air, water). There was thus a great need in the communities and schools to reverse this trend with the aim of finally rehabilitating the environment in the river basin thereby reducing the negative impacts (siltation and eutrophication) to the lake.

### 2.1.2 Programme Design

The project design was found to be good. The goal and purpose are realistic and the purpose is achievable in the life of the project. The indicators are specific, achievable, realistic and time bound. In terms of measurability some are and others are not because there are no quantifiable targets. For example an indicator such as *"Number of EE related issues prioritized and implemented by other environmental partners in forestry, fisheries, catchment management and water quality"* does not give the implementer a set target of issues which will signify the success or lack of it. So the indicator is vague.

Using EE as the entry point was also found to be strategic as EE targets a change of attitude and behaviour and if it succeeds it has long term impacts on the target groups and on the environment as opposed to assisting people in environmental conservation without attempting to make then understand and experience the benefits of a good environment.

The other issue that was noted under programme design was that the implementing institutions were not involved in the design and this caused some challenges and constraints during the initial implementation phase. As such all the countries interpreted the proposal differently and without a harmonized approach. For example while Kenya and Tanzania were using the whole school approach, Uganda was not and only began using the approach much later after being exposed to the approach in the other two countries.

In addition WCK Kisumu office was not aware of what activities were expected of them as they only saw the log frame in 2006 and thus had to compensate for time lost.

[3] Regional survey conducted by WWF Sweden

As regards budgeting, it was the feeling of the executants that 4WD vehicles should have been budgeted for in Uganda and Tanzania. Nature Uganda did not have a vehicle and spent a lot of time hiring transport which sometimes was not a very efficient use of their time. However it should be noted that even though this cost them in terms of time they did not overspend their budget allocation on field running costs. WCK did not have a 4WD and this constrained access to project sites e.g. in Transmara district.

Also related to the finances was that in Tanzania the programme was unable to purchase water tanks for the schools in dry areas whose priority was water access and availability. However WCK managed to purchase water tanks despite the budgetary constraints.

With respect to the "Swedish strategy for support for poverty reduction and sustainable development in the Lake Victoria region" whose overall aim was "to contribute to poverty reduction in a sustainable development framework" the programme was found to be relevant.

The main priorities in the strategy were:

- 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

In addition the focus of the strategy between 2004 and 2006 was that projects were 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 above priorities were taken into account during the design phase of the programme and the implementation has demonstrated considerable success in these areas (see section 2.2 for effectiveness).

### 2.1.3 Regional Approach

The regional approach was found to be relevant as not using a regional approach would not have any impacts on the Lake which is shared by three countries and whose catchment area also includes Rwanda (newly incorporated as an East African state together with Burundi).

### 2.1.4 Timeliness

We also found that this programme was well timed. This is because the transition of EE into ESD was just beginning in 2004–2005 and the implementation of the ESD has finally been adopted by the three governments recently. This programme was designed and implemented with ESD in mind and therefore already has best practices and lessons that can be used to inform ESD implementation by other agencies and the three governments.

*In summary the programme was highly relevant and was designed appropriately taking into account the situation at the time.*

## 2.2 Implementation Strategy

The programme as earlier stated was implemented by three different institutions WCK in Kenya, Nature Uganda and WWF TEEP in Tanzania.

### 2.2.1 Institutional Arrangements

The programme was implemented through four layers of institutions. WWF Sweden was the contract holder while WWF EARPO was the implementing institution. Since WWF EARPO did not have offices at the sites around the lake they chose to work through partners in Kenya and Uganda whilst implementing themselves in Tanzania. The implementing institutions then implemented through schools and community groups.

WWF EARPO entered into contractual arrangements with WCK, Nature Uganda and the TEEP programme. The contracts stipulated the outputs that were expected from the three organizations and these contracts were in line with the WWF Sweden-WWF EARPO contract. The schedule of reporting was what differed.

The adherence to the contracts and financial guidelines at the beginning of the programme by the three agencies had a number of challenges, the biggest one being that they did not know how to proceed with the implementation of the programme due to lack of guidance[4]. It therefore took time for smooth implementation and thus it was only in 2006–2007 that the contractual guidelines have been followed through properly.

An analysis of the effectiveness and impacts that this programme (refer to 2.3, 2.4 and 3.0) showed that this arrangement did not affect the implementation or effectiveness of the programme even though it was bureaucratic. The alternative would have been for Sida to give the implementing agencies money directly to lessen the bureaucracy but Sida prefers to channel the money through a Swedish NGO. The other alternative would have been for WWF to establish offices where there were none and implement the whole programme directly. This would have increased the overhead costs and would also have duplicated the activities of WCK or Nature Uganda's activities as they were already established and were implementing activities along similar lines. In addition WWF's policies seek build the capacities of partner organizations. Thus if they implemented themselves they would not have been keeping with their own policy.

As such the conclusion is that as far as the reviewers could assess, even though the institutional arrangements were bureaucratic, the bureaucracy was managed well and did not lead to inefficiency or ineffectiveness of the programme. Thus Sida can continue with the same institutional arrangements.

### 2.2.2 Specific Role of WWF Sweden

Some of the terms of agreement in the contract between Sida and WWF Sweden stipulate that WWF Sweden will plan, implement and conduct M&E of the programme, conduct a capacity assessment and develop a capacity building framework for partners, integrate HIV/AIDS and also conduct an Environmental Impact Assessment (EIA).

A capacity assessment was conducted in 2005 to determine the strengths and weaknesses of each institution and their appropriateness in implementation. Whilst the capacity assessment was quite appropriate and detailed it did not translate into a capacity building framework for the implementing institutions. However looking back at the way the programme was implemented the gaps that had been identified by the assessment did not adversely affect the implementation of the programme as the three institutions were experienced in EE.

In addition the EIAs were not conducted because the programme's main goal was EE and not any major infrastructural developments (such as sinking boreholes or construction of buildings) that could have required EIAs. The only infrastructure seen was the protection of the spring in Ndurio which resulted in conservation of the wetland as opposed to destroying it.[5] For HIV/AIDS integration refer to section 2.5.

[4] Due to the unfortunate demise of the WWF Conservation Director

[5] Refer to section 3.2

WWF Sweden played a significant role in the whole programme in the following ways:

- They were involved in the preparation/design of the proposal together with WWF Tanzania. They first conducted a regional survey that identified the stakeholders and the gaps in the region. They also took stakeholders from the region for an exposure tour to a Baltic Sea project on EE.
- During implementation they emphasized on the whole school approach and made regular monitoring visits to the programme sites (at least one annually). Together with EARPO they analysed progress and identified steps that would ensure the fulfillment of the outputs. In addition during team meetings they provided guidance on the logframe, monitoring and evaluation and also shared ideas on different ESD methods and school development frameworks.
- Since they were the contract holders they were in regular contact with Sida making sure that they met the contractual agreements in that they have held the annual meetings with Sida as stipulated in the contract.
- They have also fulfilled the reporting requirements of submitting the audited financial report and the result oriented report for the period ending June 30th 2007.

In summary their role was quite instrumental in the effectiveness of this programme due to their global experience in EE and ESD.

### 2.2.3 Planning and Co-ordination

At the beginning of the programme, as earlier stated the project executants were not involved in the design phase. This created a lot of disharmony within the programme and confusion as they did not know exactly what was expected of them from selection of sites to approaches on how to implement the various activities.

However after the current LVCEEP programme coordinator was recruited and an inception workshop was held with the project executants and other stakeholders the programme was put on track. Thereafter regular planning meetings have been held with the project executants and the implementation of activities has gone on smoothly especially in 2006 and 2007.

These planning meetings have also assisted the executants exchange ideas and materials and advise each other on various issues. For example Nature Uganda began implementation of the whole school approach from these meetings while WCK got ideas of how to make EE posters from Nature Uganda.

### 2.2.4 Capacity Building on EE

This programme had inbuilt a lot of training as its major strategy. Training was taking place at all levels both formally and informally. At formal level it was school children, teachers, tutors, school inspectors and education officers while at informal level the communities were the target group.

Different techniques were used in delivering the EE messages depending on the target group but the main approach was that the training had to be participatory and learner centred. Participatory methodologies meant that the facilitators did not train in the traditional approach where the main assumption is that the learners do not know the subject and thus 'download' in lecture form the information that is required. In these trainings the premise was that the learners i.e. from the teachers, community and children knew about their environment and all the training was going to do was to enhance and emphasize on issues which they already knew but could have been taking for granted. For example most people know that deforestation is detrimental to the environment because it causes water shortage, soil erosion amongst other impacts, but are unable to link it directly with the impacts on their livelihoods. Thus in this training the linkages were demonstrated and good practices were emphasized through the exposure tours.

The exposure tours served as the evidence/verification means of the information that had been passed in the training workshops. Trainees were able to tell the difference between degraded land and rehabilitated land, good waste management versus bad waste management, impacts of bad and good agricultural practices, differences between use of lots of firewood for cooking as opposed to less firewood, using energy saving stoves, amongst others.

For the communities the linkage of environmental destruction to their health status and poverty was also made and they understood why they were getting poorer or why there were prevalent water borne diseases in their areas.

Thus for the communities especially, the exposure tour was rated as the most important instrument that made them change their attitude and behaviour towards the environment. Different designs of gardening, moulding energy saving stoves, importance of indigenous versus exotic species, impacts of soil erosion on the Lake e.t.c were all passed on during the exposure tours and exchange visits.

Tutors and teachers were also shown how to incorporate EE in their schemes of work for their students so as to emphasize EE both theoretically and practically in and out of the classroom and were also exposed to global environmental issues such as ESD, the MDGs and climate change among others.

The combined delivery of the EE messages through the participatory methodology, learner centred approach, exposure tours, formulation of action plans and follow-up of the action plans were found to be the most critical aspects that changed the attitudes of all the target groups (see impacts in section 3.0).

### 2.2.5 Greening Initiatives

Another strategy in this programme was the greening initiative of schools and communities.
This strategy was the most visible during the field observations. It involved tree planting, water harvesting, grass planting, "talking compounds" and gardens amongst others. This strategy served as a favourite of all the target groups. This activity was extremely visible in the schools where schools that were initially bare and heavily eroded due to sweeping now had grass, trees flowers and pathways and soil erosion had been controlled.

This greening initiative served as the practical session for the target groups. They practiced what they had learnt during the learning session and witnessed the environment changing for themselves without assistance from the implementing institutions. The compounds were also used for continuous EE as trees and other plants were labeled and their usefulness communicated to the children through the labels.

The greening initiative only served to motivate them further and elicited the impacts that are detailed in section 3.0 and as an implementation strategy it served as an appropriate and powerful tool in EE for schools, teachers and communities.

### 2.2.6 Involvement of Other Stakeholders

The programme also had a strategy of involving other stakeholders with similar interests such as, Ministries of Education, Ministries of Environment, National Environmental Management NEMA, Nile Basin Initiatives (NBI) and Lake Victoria Environmental Management Programme (LVEMP) among others.

In Kenya WCK worked closely with NEMA although there was little value addition by NEMA as there is only one person on the ground. They also worked with the school inspectors who appreciated the training and adjusted their inspection of schools to include more EE initiatives. The school inspectors were also instrumental in taking EE messages to schools that were not part of the programme and eliciting interest in EE in their areas of operation. The Ministry of Education was involved through the school inspectors, the Ministry of Agriculture was involved by liaising with programme schools for the Agricultural Show Produce e.g. Leita Kabunde Primary School, the Forestry department donated seeds and seedlings to schools while a VI-Agro forestry site served as a demonstration site.

At provincial level, WCK is part of the District Environmental Committee where the municipal council, NEMA, ECOVIC and KOEE meet.

In Tanzania, TEEP interacted with the Ministry of Education, District Education Officers, Local government officials such as ward councilors, Nile Transboundary Environmental Action Plan and North Mara Mining Company. They also involved doctors from Tarime Hospital when conducting the training on environmental health. However the there was no involvement with the industries who are part of the main pollutants of the Lake, Lake basin officers and the agriculture and forestry ministry have not been adequately involved.

There was involvement of more stakeholders in Uganda which may be due to the decentralized nature of governance as opposed to centralized system in Kenya and Tanzania. The programme worked with NEMA, ministries of water and wetlands i.e. Wetlands Inspection Division (WID), Education, Agriculture and Livestock departments, Uganda Wildlife Authority, Nile Basin Initiative, Masaka District Council (LC5) and the central government, Wildlife Clubs of Uganda, Uganda Wildlife Education Centre (UWEC) and VI-Agro forestry.

WWF EARPO is also working closely with the Nile Equatorial Lakes Subsidiary Action Programme (NELSAP) of the NBI which is focusing on the Mara River Basin. This collaboration has become better over time and is expected to improve especially if NELSAP fund the awareness raising and community mobilization proposal submitted to them by WWF. WWF also gives regular briefs and are also invited to NELSAP meetings.

The consultants were unable to interview most of the stakeholders mentioned in this section due to shortage of time. It would have been interesting to find out their views on EE and its impacts from their point of view.

### 2.2.7 Programme Monitoring

The commencement of monitoring begins with a baseline survey upon which a monitoring framework is developed. What transpired was that the different countries conducted various studies at the beginning of the programme but which did not translate into any monitoring framework for the project executants. In Kenya they conducted participatory rural appraisals at the selected sites, Uganda conducted a Knowledge, Attitudes and Practices study and in Tanzania they conducted a 'baseline' which was not thorough. They however used some of the information in the baseline when reporting against the different outputs[6].

However despite lack of a monitoring framework based on baselines, programme activities and progress was monitored at all levels by Sida, WWF Sweden, WWF EARPO, the implementing institutions in each country, communities themselves and programme schools.

Evidence of monitoring is depicted in the biannual reports to Sida, the quarterly progress reports of WCK, Nature Uganda and TEEP to WWF EARPO and the monthly/quarterly reports of the schools and community groups' action plans to the implementing institutions.

Other reports by the schools inspectors and tutors were also done and submitted to the implementing institutions especially in Uganda and Tanzania. These reports were in terms of performance checklists (Tanzania) and environmental audit reports (Uganda) where schools were given marks on environmental efforts as part of the overall competition in greening. Community groups in Uganda even had visitors' books per household in order to monitor the number of visitors that they were transferring EE skills to!

Thus activity monitoring was taken seriously and it was also one of the most important factors that led to the success of the programme in schools and communities. Once they had undergone training and

[6] LVCEEP annual technical report 2006 – Tanzania

formulated their action plans, the implementing institutions followed up the plans by constantly visiting the sites. This motivated the communities and schools who responded by increasing their efforts in environmental conservation which resulted in the impacts detailed in section 3.0.

Although activity monitoring was done reasonably well, there were three gaps noted: First there were no attempts to collect empirical data on the changes that were occurring in the environment and the socio-economic aspects of the communities. For example most of the information on the changes is anecdotal. The consultants only came across two schools that had photographed the schools before the project and were then able to tell the changes that had occurred through the initiatives. In addition the increase in biodiversity at the sites is also anecdotal and cannot be verified with empirical data. Most communities were also unable to tell us how much income they had made before the programme interventions for comparison with the income accrued after the interventions due to diversification of livelihoods and conservation of the wetlands.

Secondly, most of the progress reports did not capture the numbers that were required by the indicators in the log frame e.g. in output two it is not clear how many children were involved in poster competitions.

Thirdly, some good case studies have emanated from this programme but none has been documented. We will highlight some in the impact section.

*This information is very important in order to prove the case that EE has had an impact on the environment, people lives and livelihoods.*

## 2.3 Effectiveness

Effectiveness is the extent to which the project results/outputs were realised by the programme and their contribution to the program purpose. This is detailed in the table 1 next page.

| Programme Outputs | Indicators | Achievements | Comments |
|---|---|---|---|
| 1. Capacity of Teachers and teacher trainers to deliver EE as an integral part of their normal education activities built and strengthened in selected sites. | • 95% of target colleges and schools staff undergone EE training by 2006. | More than 95% of the targeted staff in colleges and schools have undergone training. | The whole school approach was responsible for this. It is only the new teachers who have not undergone training and they are relatively few. More than 600 teachers have been trained. |
| | • Number of selected educators is able to co-ordinate and monitor EE programmes in schools by end of year 04. | The school inspectors, tutors and CCTs have been monitoring EE programmes through the school performance checklists and audit forms. | More than 200 tutors have been trained. |
| | • Number of teachers who are aware of an practice suitable EE methodologies | The same number of teachers trained by the programme are all practicing EE methodologies through various schools projects. | The whole school community has various environmental activities around the school. The entire school behaves like one big environmental club. |
| | • Teachers Schemes of Work define EE for inclusion in their subject lesson plans | All teachers interviewed had included an extra column for EE messages or cross cutting issues in their schemes of work. | In some schools in Tanzania there seemed to be a problem in interpreting the cross cutting issues in the schemes of work. |
| | • EE topics become examinable at the national level | In Tanzania EE is examinable, in Uganda and Kenya it is not yet examinable. | In Kenya there is still no EE policy and in Uganda it has recently been incorporated into the school curriculum. Kenya and Uganda did not engage with the curriculum developers and examination council respectively. |
| | • The extent of EE delivered in schools filters down to and adopted by households | Primary school children have been instrumental in taking EE to their homes by planting trees, constructing the energy saving stoves and waste management. | **Summary:** This output has been almost fully achieved. Effectiveness is high. |
| 2. Education materials to support formal and non formal environmental education and awareness initiatives developed and disseminated in selected sites. | • Number of developed toolkits distributed yearly. | No toolkits have been developed in this programme. The only materials have been regional teachers materials which are yet to be complete. | Tanzania was using materials that had been developed by TEEP while Kenya and Uganda had no reader materials. |
| | • Number of participants in yearly poster competitions, quality of contributions and number of posters distributed. | There is no data to determine how many poster competitions were held in the three countries and quality of posters. However Uganda produced and distributed 9,000 community posters. Kenya is in the process of producing posters and Tanzania has produced the programme brochure and two fact sheets. | Reporting on this indicator could have been better. |
| | • A proportion of students engaged in outdoor activities using EE resource materials. | All students in the target schools are involved in outdoor activities but with very little resource materials. This was only evident in Uganda where posters are assisting the children in EE activities. | The main constraint here was lack of resource materials. **Summary:** This output was partially achieved. Effectiveness is low |

| Programme Outputs | Indicators | Achievements | Comments |
|---|---|---|---|
| 3. School children understand the rationale for conserving freshwater ecosystems and other natural resources and the linkage between natural resource management and sustainable livelihoods. | • Number and type of activities and artwork on environmental issues at college and school levels. | This information was not reported on by Uganda and Tanzania. Kenya held an art competition and awarded prizes to the best artworks. | |
| | • Number and type of issues now and in the future as perceived by children through artwork. | This information was not reported on by the three countries. | |
| | • The numbers and quality of schools greening initiatives. | All 32 primary and secondary schools in the programme have greening initiatives which are of high standards. | The greening initiative was one of the most successful approaches used to deliver EE messages. |
| | • Numbers of environmental clubs and their activities in schools before and after the project. | All 32 schools all have an environmental or wildlife club that are registered with WCK in Kenya, WCU in Uganda and Malihai Clubs in Tanzania. | There are more schools not in the programme that have established clubs following the examples from the programme schools. |
| | • Changed perception and priority of the environmental issues by school children. | The perception of the children has changed 100%. They are heavily involved in the greening initiatives and have transferred the knowledge to their homes. | Children clearly articulated to the consultants through interviews, song and poems their understanding of environmental issues and how they are addressing these issues both at school and home.<br>**Summary:** This output was largely achieved. Effectiveness is high |
| 4. Riparian communities achieve capacity to conserve and sustainably manage natural resources within selected sites of the Lake Victoria catchment. | • Number of environmental issues prioritized by the target villages before the commencement and at the end of the project. | If we assume that the prioritization of environmental issues was less than 1% in the communities as all communities interviewed were not into environmental conservation at all before the project then we can say that currently environmental issues form over 90% of the communities agenda. | The baseline information is missing hence the assumption. However the following issues are now being prioritized by communities:<br>• Energy saving<br>• Afforestation<br>• Clean and safe water<br>• Use of medicinal herbs<br>• Importance of indigenous trees<br>• Organic farming<br>• Waste management<br>• Alternative livelihoods to save biodiversity and wetlands<br>• Soil erosion |

| Programme Outputs | Indicators | Achievements | Comments |
|---|---|---|---|
| | • The numbers and actual use of toilets in the target villages from year 05. | The coverage of toilets was low. In Enego village (Kenya) more than 100 latrines have been built since the training. In TZ communities have developed bylaws to ensure all community members have latrines. Pit latrine use has increased to 100% from 20% by teachers and pupils since the onset of the programme. There is no mention of the latrine component in Uganda. | Most baseline information and actual information on numbers of latrines before and after the programme is missing. |
| | • Number of EE related issues prioritized and implemented by other environmental partners in forestry, fisheries, catchment management and water quality. | There is inadequate information on this. However at an individual level the partners who attended the trainings have planted trees either at their offices and homes e.g. in Tanzania the District Planning Officer and District Chief School inspector in Tarime had planted over 8,000 trees after the training. In Tanzania they are also streamlining EE in district council issues and in Uganda the programme is in harmony with the Ministry of Education EE themes. | No baseline information and actual status on this. |
| | • Reduced dominance and frequency of diseases contraction by communities at the end of project compared to before project onset, particularly diseases that are a result of the physical environment. | Environmental diseases have reduced. In Ndurio-Nandi Hills water borne diseases such as typhoid had reduced from 200 cases per month to less than five per month.[7] In Bunda Tanzania the practicing school claimed that the prevalence of water borne diseases had been almost eliminated. | Most of the environmental diseases reported on were water-borne. Baseline and actual data would have been more helpful. |
| | • Rates of adoption of energy efficient stoves from year 05. | All households that were targeted by the programme adopted the energy saving stoves. There was 100% adoption. | There has been a multiplier effect of more than 100%. One of the most successful initiatives in the programme. |
| | • The extent and quality of changes in the treatment of drinking water whether at village or household levels per year. | From the interviews all households in the programme claimed to be boiling water for drinking. | There is no baseline data or actual data to qualify this. |
| | • Numbers of income generating activities that are conservation oriented before and after the project. | At the beginning of the programme, there were almost no conservation based IGAs in the communities. Currently all community groups have IGAs both at group level (sale of trees, fish farming, beekeeping) and at individual level (selling of excess produce and crafts). | IGA promotion has had 100% adoption and success. |

| Programme Outputs | Indicators | Achievements | Comments |
|---|---|---|---|
| | • The numbers and quality of village greening initiatives. | All community groups visited in the three countries are greening their villages through the planting of trees (shade, fruit, fuel wood), and planting medicinal plants and flowers | Very high success rate. |
| | • Numbers and standard of environmental committees and their activities in villages before and after the project. | All villages visited had environmental committees or groups whose main function was environmental awareness, greening of their communities. | All environmental groups interviewed were self motivated and were implementing their action plans accordingly. |
| | • Reduced or eliminated environmental issues. | Environmental issues have definitely reduced. Deforestation for charcoal burning has reduced, cultivation in the wetlands has ceased and soil erosion has been reduced tremendously. | High success rate on this indicator. However no quantifiable data can prove this. |
| | • A proportion of community members whose hygienic conditions and lifestyles have changed positively through EE. | Similar to latrine and water treatment indicators (see above). | **Summary:** This output has almost been fully achieved. Effectiveness is very high. |
| 5. A practical partnership building mechanism for EE delivery within and among stakeholders developed and operationalized. | • Number of participants in joint training every session/or year.<br>• Numbers of environmental newsletters distributed quarterly and yearly. | Every country has had joint meetings or training with other partners (Tanzania with the district councils, Uganda with PTCs, WID, Ngozi University, and NGO environmental forum, local councils and Kenya with KWS, NEMA, VI-Agro forestry and AFEW.<br>Nature Uganda and WCK have produced monthly and quarterly newsletters respectively during the programme period. These newsletters have featured articles on the programme even though the programme was not directly contributing to their production. | Apart from Tanzania the other two countries have not documented the number of participants in training.<br>**Summary:** This output has partially been achieved as there has been no programme newsletter. Effectiveness is thus fairly rated. |

[7] Figures from Mr. David Lagat, Assistant Chief.

## 2.4 Cost Effectiveness[7]

Our definition of cost effectiveness is the ratio of funds spent directly on the beneficiaries as opposed to administration costs. In this programme we have analysed the cost effectiveness per country and the programme as a whole. Administration costs here relate to expenses under the following headings in the financial reports: staff costs, technical expertise; office running costs and field running costs while direct cost to beneficiaries are under the headings of; Support to Greening Initiatives, travel meeting and training costs and publication and material production costs. See table 2 below for analysis.
The currency used is USD.

| Country | Admin costs | Of total expenditure | Direct Costs | Of total expenditure |
|---|---|---|---|---|
| Kenya (WCK) | 9,337 | 8% | 110,136 | 92% |
| Tanzania (TEEP) | 27,550 | 23% | 90,232 | 77% |
| Uganda (NU) | 14,754 | 12% | 113,419 | 88% |
| Entire programme | 187,323 | 31% | 422,645 | 69% |

From the analysis above it can be concluded that Kenya was the most cost effective followed by Uganda then Tanzania.

We usually also conclude that a programme is deemed cost effective when their admin costs are not more than 30% of the total costs. The entire programme's admin costs are 31% of the total and thus we can say that it has been cost effective as a whole especially considering the impacts and multiplier effects detailed in section 3.0

*In summary from the analysis in tables 1 and 2 we can safely conclude that the effectiveness of LVCEEP overall has been above average.*

## 2.5 Integration of Cross-cutting Issues

Cross cutting issues in this case were gender, HIV/AIDS and Poverty. All these three issues were integrated in the programme proposal even though the methodology of exactly how this would be translated during implementation was vague and they were not mentioned in the log frame.
Despite this the implementing institutions all addressed them as follows:

In Kenya, schools with HIV-AIDs orphans are benefiting from diversified agriculture which has served as a source of income for the orphans (Leita Kabunde Primary). In Tanzania teachers were trained in "The Environment and HIV/AIDS". In Uganda, the groups were given talks by ECOVIC on HIV/AIDS. The project stressed on the health and nutrition of HIV/AIDS affected people by encouraging them to undertake kitchen gardening around their homesteads where they use less energy and grow a variety of nutritious foods. HIV/AIDS affected people were also members of the community groups that the project was working with.

EE was very relevant to men and women, boys and girls as demonstrated by their participation and enthusiasm during the review meetings and discussions. Gender representation has been advocated for in the trainings and there has been an increasing number of women attending workshops. The community groups also have representation from women, men, youth and other interest groups. In Masailand Kenya women were finally allowed to attend workshops and air their views before men.

The nature of EE is that it touches on trees, water, food, health, income, fuel wood and good health and for this reason has a direct relationship to the roles of gender in society, making it a centre of interest to both men and women. However EE has impacted more on women than men as women are better adopters than men. The women have began income generating activities on crafts, adopted the energy saving stoves in their kitchens, organic farming in their kitchen gardens while men are mostly

involved in tree planting. In schools the impact was wholesome and gender parities were not very evident. However some women in Uganda observed that since the initiation of EE initiatives, men now spent more time at home as most of the provisions that they were required to provide for their families are now provided for through EE activities by the women, hence there is less demand from them as heads of families.

Poverty has been tackled very well through the various IGAs that have emerged as an alternative to environmental destruction such as craft making, sale of excess produce, sale of seedlings, sale of traditional medicine, selling skills such as stove making, organic farming among others.

In this regard the programme *has done well.*

## 2.6 Contribution towards Purpose and Goal

The purpose of a project/programme has to be met during its duration while it should have made substantial contributions to the goal. The purpose of this programme was *"To promote and influence change in attitude and behaviour of the target catchment communities and schools towards their immediate environment while sustainably using and managing natural resources."*

From the analysis of effectiveness and impacts we can conclude that the purpose of this programme *has been largely* met within its time period of three years. This is because attitudes and behaviour of communities and schools towards environmental issues have changed for the better. There is adequate evidence that can be seen in all the targeted communities and schools.

The goal of the programme was *"To secure the ecological integrity and sustainability of the Lake Victoria catchment for the benefit of its inhabitants and biological diversity".* The programme has definitely contributed to this goal and in the implementation of the next phase in collaboration with more stakeholders the contribution to the goal will be greater.

## 2.7 Contribution towards Protocol for Sustainable Development of Lake Victoria Basin

It is important for programmes of this scale to align themselves to various legal frameworks that have been adopted by the governments in the region that stipulate the management of the Lake and its natural resources. One such framework is the "Protocol for Sustainable Development of Lake Victoria Basin" which is an EAC document. The programme has thus contributed to the following Protocol articles[8] in the following ways:

| Article | Programme contribution |
|---|---|
| Article 5: Equitable and Reasonable Utilisation of Water Resources | Upper catchment management issues addressed and observed in the three countries. |
| Article 6: Protection and Conservation of the Basin and Ecosystems | The whole programme was about catchment and basin management. The designation of the Nabajjuzi wetland as a Ramsar site. |
| Article 7: Sustainable development of natural resources | Seen in the three countries with regards to the greening initiatives. |
| Article 9: Sustainable agriculture and land use practices | Seen in the three countries on people's farms through kitchen gardening and organic farming efforts. |
| Article 10: Tourism development | Seen in Uganda, the Nabajjuzi observatory |

[8] Details on the articles can be gotten the Protocol document on the EAC website.

# 3. Impacts and Sustainability

This section will detail the impacts that were observed by the consultants and their sustainability.

## 3.1 School Impacts

- *Rehabilitation of the school environment:* All the 32 schools in the programme have had their schools compounds rehabilitated through the greening initiative. The school compounds have grass, designated pathways and soil erosion caused by intense sweeping has been reduced. The compounds are beautiful with different plants (trees, grass, flowers) and the plants are already providing shade for relaxation. Schools have planted between 200 and over 3,000 trees with more than 70% survival rate. Fast blowing winds no longer removes the roofs of schools like Leita Kabunde in Kenya and Kirumi P. School in Tanzania due to trees serving as windbreakers.

Also in line with the rehabilitation of the school environment, livestock is no longer allowed to graze in the school compounds as they are likely to cause destruction to the young trees. In Buswahili Primary School in Tanzania fines had even been imposed on members of the community found with livestock in the school compound. However in Homa Bay the schools were still struggling with livestock in the school compounds.

The overall cleanliness of pupils has also improved due to less dust and mud because the school compounds are covered with grass and gravel.

Two schools Lala Primary School in Homa Bay and Chereche Primary School had taken photographs before the programme in order to show the changes that had occurred. This was commendable as it showed that they were impact monitoring.

Greening initiative in Pemba Primary School, Tanzania

- *Teaching aid:* The school compounds are now being used as teaching aids/talking compounds not only for EE but for other subjects such as math, science, agriculture e.t.c. geometrically shaped flower beds are used to teach geometry, biological and ecological functions of nature are also taught outside the classroom. Geometrical flower beds and gardens were seen in Kirumi Primary (Tanzania), Kisojo Primary (Uganda). Trees and different plants are labeled and in some cases there are environmental messages exhibited around the school such as *'Do not litter, Keep our environment clean, Wear shoes, Wash hands'* e.t.c. This serves as reminder to the school fraternity on good environmental practices.

- *Demonstration Centres:* the schools are being used as demonstration centres of EE by other schools and the community. There is a lot of interaction between the community and the schools as when the children go home and tell their parents what is going on in school the parents respond by visiting the schools to learn waste management, organic farming, energy saving stoves, e.t.c. Kisojo Primary School in Uganda serves this purpose very well for the surrounding schools and communities. The community also have their own demonstration plot in the school.
- *Good governance:* Governance of the schools in the programme has improved tremendously due to enhanced discipline. The whole school fraternity is now very busy with environmental activities thus idleness of students and teachers has almost been eliminated. This is narrated in a case study[9] in Box 1.

**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.

- *Enhanced academic performance:* All the schools that were visited have improved their academic performance since the onset of the programme. They attribute this to the incorporation of EE in the school system. They rate improvement as the number of children transiting to secondary school. See examples of figures below from Tanzania:

| School | Year | No. of pupils going to Secondary School |
|---|---|---|
| Buswahili Primary School | 2004 | 3 |
| | 2005 | 12 |
| | 2006 | 42 |
| Kirumi Primary School | 2004 | 19 |
| | 2005 | 32 |
| | 2006 | 40 |
| Chereche | 2004 | 16 |
| | 2005 | 28 |
| | 2006 | 36 |
| Pemba | 2004 | 7 |
| | 2005 | 25 |
| | 2006 | 31 |

[9] Narrated by Dina Nicodemus, Environment Teacher, Pemba Primary School

- *Food security:* The food security of the schools in the programme has improved 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. Thus teachers no longer need to leave the school compound for lunch whilst retention of pupils during the long dry seasons is guaranteed as they are assured of a meal in school. This has also impacted on enhanced academic performance.
- *Improved income:* The schools have increased their incomes because of selling excess produce in the markets. They are now able to buy school equipment, subsidise costs of poor children and in one case (Bunda Primary) they distribute surplus funds to parents!
- *Self reliance by pupils:* All pupils in the schools are involved in the agricultural gardens and some disadvantaged pupils are now educating themselves with proceeds from the gardens e.g. in Leita Kabunde. See Case Study 2 in Box 2. In Uganda a student is educating himself by constructing mobile energy stoves and selling then for Ushs 20,000 a piece.

**Case Study 2: David Ooko**

David Ooko is a 14 year old in Leita Kabunde Primary School in Homa Bay district, Kenya. He is in Standard 8 and will be sitting for national examinations this year. 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.

- *Reduction of diseases:* The prevalence of diseases has reduced tremendously in the schools due to the boiling of water. Respiratory diseases have also reduced because of less sweeping in the compound and parasitic diseases such as jiggers and worms have also reduced due to the wearing of shoes[10].
- *Multiplier effects:* Due to the success of the schools involved in the programme other neighbouring schools have began emulating the incorporation of EE in the school environment e.g. the case of Obolo Primary in Tanzania is presently involved in the environmental competitions with the schools in the programme after emulating Chereche Primary. Presently there are at least five extra schools per programme school emulating the cases of the programme schools in all the countries. Thus there are more than 160 schools incorporating EE. Nature Uganda and WWF Tanzania are also inundated with requests from schools that want to be part of the programme.
- *Additional development:* The success of the schools in the programme has elicited interests from other stakeholders. For example Leita Kabunde (Kenya) had permanent buildings constructed for them by Plan International after Plan saw the efforts that had gone into the greening initiative. A boy from Leita Kabunde has also been chosen to be the President of the Global Tree Movement after his environmental poem was voted the best and published. Bunda Practicing School (Tanzania) attracted the interests of the Baptist church that provided the school with water tanks fitted with bio filters. UNDP also got attracted and linked the school with Kamatek who built for them an energy saving stove. Weigita Primary School (Tanzania) attracted the attention of the MOE which constructed permanent buildings for the school.

[10] Anecdotal evidence as data to prove this was not collected during the programme period.

## 3.2 Community Impacts

- *Reduction of negative environmental practices:* Target community groups have stopped cultivation and grazing of livestock in the swamps and riverine areas due to the internalization of EE messages. This was seen in Ndurio and Enego communities in (Nandi hills, Kenya) and Kaswa Community in Masaka Uganda. Deforestation has also reduced due to better energy saving stoves and the discharge of harmful fertilizers into the wetland has ceased.

- *Increased afforestation:* After the trainings communities embarked on a massive afforestation programme. Individuals have planted trees in their homesteads for shade, fuel wood, fruits and in groups they have planted trees in the wetlands in order to rehabilitate them. Trees planted by the communities are in excess of 3,000 per community. In addition they have begun cutting down exotic trees such as the Eucalyptus species which drains swamps and are replacing them with indigenous species which also enhance biodiversity. Hill tops are now under conservation of the community groups and vegetation has regenerated e.g. Buswahili, Weigita, Pemba communities in Tanzania.

- *Increased water recharge:* Due to lack of cultivation in the wetland and the cutting down of water loving species, the water levels in the wetlands has increased for usage by the community members e.g. Ndurio and Pemba communities in Kenya and Tanzania respectively. They now have adequate water for their domestic use and livestock. In Ndurio community the increased volume of water has led to an influx of people at the protected spring. The community thus wants to pump water out of the spring to the surroundings in order to alleviate pressure at the source. Whilst this may be an obvious solution for the communities it should be noted that it can have adverse impacts to the very swamp they have rehabilitated.

- *Increased biodiversity:* Biodiversity has increased in wetlands; threatened species such as the Crowned Crane have returned to the Ndurio and Enego swamps, there is an increase of Sitatunga and snakes in the Katonga Wetlands amongst other species[11].

- *Successful transition to alternative livelihoods:* In order for the communities to stop degrading the wetlands they had to be exposed to alternative livelihoods. This has proved very successful as charcoal burners have changed into bee keepers, fish farmers and tree seedling growers. They have already sold honey, trees seedlings and fish and are satisfied with the income (Pemba and Weigita communities-Tanzania). In addition some community members are now selling their skills in order to generate income. Skills include the making of energy saving stoves (Kaswa Community Group –Uganda); organic farming (Bisanje Community Group – Uganda).

- *Reduction of energy used per capita:* The use of fuel wood has reduced tremendously amongst the communities due to the use of the energy saving stoves. One head load in Nandi hills now lasts for a week instead of a day. In Uganda communities used to buy firewood of Ushs 1,000 per day and now buy for Ushs 100 per day. One lady in Nandi Hills who was not part of the targeted community members has adapted the energy saving in her own style and said that she will not need to fetch firewood for the rest of this year as two firewood pieces are enough for the whole day!.

- *Emergence of community environmental groups:* After the EE training most communities formed environmental groups that are registered and some even have bank accounts. Their main roles are educating the larger communities on environmental conservation, afforestation, improved agricultural practices, energy saving and good waste management practices. Community groups were also shown how to write project proposals (Kenya) and are now seeking funds from other donors by themselves. Examples of community groups are Enego and Ndurio Environmental Groups (Kenya), Kaswa and Bisanje Environmental Groups (Uganda), Kikumawe and Nyangena Environmental Groups (Tanzania).

[11] Anecdotal evidence

Energy saving stoves in Enego Community Nandi, Hills, Kenya

- *Transfer of skills and experiences to schools and other community members:* Whilst the children take good environmental practices home the communities after going for the exposure tours also took experiences gained to their schools. E.g. the Tanzania community members that went to Uganda came back with better methods of establishing kitchen gardens and are currently transferring these methods to others e.g. Kirumi Primary. Experiences gained by Ugandans seeing energy saving stoves in use in Masailand (Kenya) inspired them to improve on their design and now communities in Masaka have a simple ordinary energy saving stove, a mobile and even a commercial one which bakes bread! In addition they have reduced indoor pollution by removing the smoke through a chimney moulded with banana stems.
- *Better land utilization and agricultural practices.* In order for communities to cease cultivation in the wetlands they had to be shown how to maximize production on their pieces of land which had turned infertile due to poor agricultural practices. Communities through the use of organic manure (compost, plant tea, liquid tea[12]) have been able to improve the fertility of their soils. In addition they are now growing a diversity of crops (fruits, vegetables, cash crops) which has enhanced their nutrition status and their incomes. They are now producing more food in their small farms as compared to when they were cultivating in the wetlands.

Organic farming at the home of a member of Kaswa Environmental Group, Masaka, Uganda

[12] Seen in Masaka, Uganda

- *Multiplier effects:* For every community that was involved in the programme there is at least one other community that has emulated their example e.g. In Nandi hills Sitoka community is emulating Ndurio community and in Tanzania, Sang'anga community are emulating the example of Pemba community. The energy saving stove has elicited more than 100% multiplier effect.

## 3.3 Sustainability of Activities and Impacts

It is imperative that activities of this programme are sustained by the beneficiaries as the wetland environment is regenerating and communities who are the main cause of environmental destruction have changed their attitudes and behaviour after seeing benefits accruing to them as detailed in the former section.

One of the biggest motivators of the schools and communities in the programme is the monitoring of activities, technical advice and training by the implementing institutions. The programme has also contributed to infrastructural development in schools and communities such as the protection of springs, water tanks, soil erosion and greening efforts by supplying wheel barrows, spades, watering cans amongst other equipment. Some schools in the drier parts of the Mara Basin in Tanzania said that for sustainability of the activities all they need is a water tank in order to harvest water for use in the dry seasons while most schools in the three countries said they had inadequate tools for greening. Their requests should be addressed in the next phase of the programme through cost sharing as they are all getting surplus income from the sale of agricultural produce.

Communities and schools have also contributed labour and materials for the various developments and the sense of ownership of the activities is very high. Many communities were not even supported materially or financially after the training but went ahead and changed their practices using their own resources!

Thus the base for sustainability is good and the more the communities and schools stop relying on the implementing institutions for material assistance the more sustainable their activities will benefit of the environment.

### 3.3.1 Ownership of the Programme

The institutional structure of this programme was such that there were four layers of institutions that were involved i.e. WWF Sweden, WWF EARPO, the implementing institutions on the ground and the target beneficiaries who comprised of community groups and schools. Thus it was imperative that the ownership of the programme impact be established.

An analysis of the information collected shows that the ownership of the programme lies very much with the target beneficiaries. All beneficiary groups interviewed were very proud of the achievements they had made themselves with minimal assistance from the implementing institutions. For example most community groups were not assisted with any monetary or material resources yet after the trainings and exposure tours they used their own resources to achieve the impacts that are stipulated in 3.2. The community groups are not looking up to the implementing institutions to finance them further as they have moved on by themselves.

The two groups of beneficiaries also do not refer to programme as WWF's, Nature Uganda's or WCK's but as their own.

# 4. Overall Performance

This section summarises the strengths and weaknesses of the programme and scores the programme under various parameters.

## 4.1 Strengths and Weaknesses

| Strengths | Weaknesses |
|---|---|
| • There was strong synergy between the target schools and their communities with the strongest link being the children.<br>• Relevance of the programme was high as there was a dire need in the schools and in the communities in the geographical area.<br>• Linkages between the Lake Environment and the catchment areas were made and understood by the target groups.<br>• Theory and practice approach to delivering the EE message was good.<br>• Participatory methodologies and learner centered approach had a lot of impact on the students.<br>• Schools are now self sufficient in food due to diversified agriculture<br>• EE enhanced academic performance in schools.<br>• EE delivery was used to deliver other cross cutting issues such as gender and HIV/AIDS and poverty.<br>• Whole school approach was a great strength of the programme.<br>• The programme was well timed as the transition from EE to ESD was just beginning in the region.<br>• Exchange visits created a lot of impact.<br>• There was good involvement of the MOE in Tanzania and Uganda.<br>• Content of the training courses was suitable to the target groups, applicable and adaptable.<br>• In Tanzania there was strong collaboration between the Mara River Basin Project and LVCEEP.<br>• Activity monitoring was very strong<br>• Best Practices and lessons from TEEP incorporated into LVCEEP.<br>• The link between the social, economic and environmental aspects of livelihoods very well exemplified.<br>• Good balance of software (capacity building) and hardware (infrastructural development).<br>• All the implementing institutions were technically competent to implement the programme. | • Proposal writing did not include the project executants thus many teething problems.<br>• Inadequate funds for human and material resources e.g. 4WD vehicles.<br>• Baseline surveys not uniform and whatever information that was collected was not thorough.<br>• Lack of monitoring frameworks based on the baseline.<br>• Lack of monitoring environmental and livelihood changes.<br>• Insufficient integration between the three countries (teachers and pupils)<br>• The impact on the Teacher training colleges was the weakest due to the high turnover of students.<br>• Capacity building for the implementing institutions lacking in the programme design and inadequate for the project executants.<br>• In Tanzania project executant not based on site.<br>• Overall material development weak.<br>• Lack of a common EE policy across the three countries.<br>• WWF EARPO did not have a policy adviser who could have pursued the policy issues with the Ministry of Education.<br>• Main pollutants (industries) were not targeted.<br>• Poor people targeted but the rich were not targeted despite contributing a lot of pollution to the environment.<br>• There were no teaching manuals for teachers in Kenya and Uganda.<br>• Although the multiplier effect of energy saving stoves is more than 100% it was noted that some homes were still using the uneconomical methods of cooking (three stones). This means that there is still work to done on behaviour change. |

## 4.2 Programme Performance

The programme has been scored using the main parameters that have been reported on in the text of this report.

| Parameter | Rating | Justification |
|---|---|---|
| 1. Project design | 2 | The project design was good. |
| 2. Implementation performance | 3 | Fair. The programme had many teething problems at the beginning but these were later streamlined. |
| 3. Effectiveness | 2.5 | Three out of five of the outputs were largely achieved with one being fair and one being low. |
| 4. Monitoring | 3 | Activity monitoring well done, impact monitoring rarely done |
| 5. Impacts | 1.5 | Very good for an EE programme as change in behaviour and attitude is not easy to achieve in any programme after three years. |
| 6. Sustainability | 2.5 | Measures to ensure sustainability have been instituted but it is only after the programme exits from the sites that sustainability of activities and impacts will be effectively gauged. |
| 7. Networking with partners | 2 | This was good. |
| 8. Contribution to Purpose | 2 | The purpose was largely met. |
| **Overall average** | **2.3** | |

1 = very good, 2 = good, 3 = fair, 4 = below average, 5 = too early to tell or data available

# 5. Lessons Learnt

- *All inclusive programme design:* A programme can be saved from teething problems and budgetary constraints when the implementers and other stakeholders are involved in the programme design. In this way their thoughts and approaches are harmonized and their sense of programme ownership is enhanced. In addition the implementers are the best placed people to design the budget as they are the people on the ground.
- *Baseline Surveys:* It is beneficial to a programme to conduct a thorough baseline survey before the initiation of the project on which a monitoring framework can be developed. In this way activity and impact monitoring become easier for the implementers and reviewers.
- *It is important for the project executants to be on site:* This is because when they are on site close monitoring and technical advice to schools and communities is readily accessible and mistakes can be corrected in time. E.g. the incorporation of EE in schemes of work in some schools in Musoma was not well understood.
- *Training schools and communities in EE using participatory methodologies and learner centres approaches is a powerful tool that can change attitudes and behaviour.* As seen in section 3.0 just training the teachers and communities twice and taking them for the exposure tours had led to successful greening initiatives, reduced environmental degradation, energy saving practices, alternative livelihoods and better living standards of communities in the target areas.
- *Development of EE Materials for different target groups is an important aspect of EE and ESD* and should be considered for further funding and integration across the five East African states. In this programme it was only Tanzania that had adequate EE material both for teachers, students and communities. The other two countries did not have any and this many have constrained the implementation of activities.

- *Environmental competitions are a big source of motivation* between schools and communities and can accelerate changes in attitudes and behavior. The case of Pemba Primary is a good example.

- *The establishment of functional school environmental clubs can have a lot of impact on the environment.* The clubs sustain the greening programme as well as become the avenues for inculcating and demonstrating environmental action and culture in schools. This was most evident in the management of solid waste, tending of school gardens, planting of grass and gravelling the school compounds. Bunda Practicing School, Lieta Kabunde in Kenya and Kirumi Primary in Tanzania are classic examples. Thus primary schools can act as effective engines of EE in the rural landscape.

- *Exchange visits are powerful tools in change of attitudes and behaviour:* The exchange visits were very successful especially in skills and technology transfer. In particular, was the adoption of the energy saving stoves which were further improved to suit the needs of respective community groups.
  Another effective knowledge transfer was that of medicinal plants and the conditions that they cure. Organic farming was also an area that generated a lot of interest in skills transfer and adoption during the exchange visits. The exchange visit was the one initiative that had the most impact on the communities change of attitude and practice.

- *EE is critical for academic improvement and for sustaining school activities.* The school gardens have become an alternative source of income for the schools and funds generated together with the food grown are used to support and sustain the school feeding programme. The trees planted in the school compound, solid waste management and gravelling of paths and parade squares have become teaching aids for soil erosion science and agriculture in what is known as Talking compounds, while the team work employed during the greening process that involve teachers, pupils, school committees and parents has greatly improved the governance, academic performance, discipline and motivation at all levels.

- *EE can be used as an approach to poverty alleviation* and by extension for the attainment of the Millennium Development Goals (MDGs): Through organic farming which utilized natural (liquid and solid) manure and composting, there has been a very significant increase and diversification in farm produce such tubers, fruits, vegetables and even animals such as pigs and goats were introduced. The farmers have also diversified to other non traditional activities such as fish farming, bee keeping and even making of crafts using naturally occurring material or recycling waste paper[13]. The sale of tree seedlings has also been commercialized amongst community groups after demand was created through awareness created by the project. In effect these generate much more income for the farmers in addition to reducing the negative environmental impacts created by farm inputs such as fertilizers.

- *Involvement of as many stakeholders as possible can enhance programme impact and sustainability activities.* Some key stakeholders who could have added value to the project were left out. These includes; the Ministry of Environment who would be key in sustaining some of the initiatives that have been achieved in the project such as mainstreaming of EE in the education policy in Kenya, the Forest department who would have been key in advising on the indigenous trees to be planted, Public health departments who would added value on sanitation and safety of drinking water and representation from the Lake basin Development Authorities in the three countries who would integrate EE in their other ongoing activities to ensure that what has been gained is not lost in due course.

- *EE is a wholesome education approach that not only improves academic prowess of recipient groups but also touches on almost all other aspects of human welfare.* For example HIV/AIDS orphans have benefited from the greening initiative both materially and financially. EE training and awareness sessions were also effectively used to discuss other cross cutting issues such as HIV/AIDS, climate change and other topical issues such as herbal medicine and MDGs.

[13] Kaswa Environmental Group, Masaka, Uganda

# 6. Recommendations

After an analysis of the findings these recommendations have been derived mainly from the shortcomings of the programme but also from some of the strengths. The overall recommendation is that phase two of the programme needs to be funded as this was only a pilot phase. In phase two up-scaling and replication of best practices across the three countries can be implemented without the teething problems of the pilot.

- The *design of the second phase should include the implementing institutions* and beneficiaries if possible for greater ownership. There is also need for the implementing institutions to be innovative and flexible so as to steer the project appropriately without claiming that the proposal was inflexible.
- *A thorough baseline survey should be undertaken* before the next phase and a monitoring framework that will capture the ecological, livelihood and behavioural changes should be developed. A simple impact monitoring form can be designed along the lines of the Important Bird Areas Monitoring forms.[14]
- *The Whole School Approach using participatory methodologies and learner centred approaches is recommended* for the other phases of the EE and ESD interventions as it has a positive multiplier effect to the environment, academics and governance of primary and tertiary learning institutions
- *Capacity building and institutional support for implementing institutions should be provided for in project design* so that they have sufficient capacity for monitoring and sustaining the gains made by the EE interventions beyond the project period.
- *Inter-country competitions:* These should be encouraged both at school and community levels. In addition the next phase needs to in build exposure tours for school children and teachers across countries in order to enrich their learning.
- There is need to *draw guidelines for environmental clubs* for them to remain relevant beyond the project period and to create a national and regional network for such clubs so as create synergy and standards of practice.
- There is need to *develop resource books* and materials for all social categories, groups, schools and institutions written in both national and local languages. These will create long term impacts of EE and will sustain leaning across generations. Some of the materials should be posted on an EE website for the region for ease of access.
- *Natural water harvesting* should have a bigger focus in the next phase in order for the greening initiative to continue even during the dry seasons.
- Kenya and Uganda should make a concerted effort to *engage with curriculum developers and examiners* so that EE becomes examinable at national level.
- There should be an element in the next proposal that will *enhance the engagement with the media.* Uganda had radio programmes during this programme. Best practices and success stories can be disseminated through both the print and electronic media.
- There is also need to *target the youth out of schools* for EE in order to enlarge the target group. This can be done by encouraging them to get involved in enterprises connected with conservation of natural resources.

[14] Contact for the forms is Nature Kenya and Nature Uganda

- There is need to *enlarge the geographical area* as the pilot has proved successful. This is because in some areas e.g. Katonga river basin and Ndurio wetlands not all the communities and schools along the wetlands have been involved and this can reduce the impact of this programme. In addition, when sites are being selected, the different institutions also need to select sites where the direct polluters of the Lake are situated, because conserving the catchment of Lake Victoria when there are still communities and industries polluting the lake directly will minimize impact.
- We also recommend that a *cost-benefit analysis* to show the gains in the environment and people's livelihoods is conducted. After which the success of this programme now backed with empirical data be written up as a best EE practice, published and distributed locally and internationally for other environment and development agencies to emulate.
- There is also need to *involve more stakeholders* in the geographical area e.g. industries, public health officials, LVEMP 2 and the ministry of environment, Lake Basin Commission. In this way the programme will be able to influence the working of others in an effective manner.

# Annex 1: Terms of Reference

## Background

The overall objective of the Swedish government strategy for support to Lake Victoria Basin (2004–2006) is to contribute to poverty reduction within a sustainable development framework. The strategy identifies sound environment and sustainable use of natural resources as one of the priority areas for support. The strategy further notes that a number of environmental threats must be dealt with if sustainable development is to be achieved in the Lake Victoria region. Some of these threats include among others, growing pressure on water systems and deteriorating water quality caused by population growth and rising water consumption, removal of vegetation cover in the catchment area, chemical and fertiliser run-off from agriculture, and urban waste and sewerage disposal. Pollution from point sources, e.g. industries and urban areas, as well as from non-point sources, mainly non-sustainable use of artificial fertilisers is also noted as a threat.

The Strategy notes that effective promotion of sustainable development is predicated on more active participation on the part of local citizens. Swedish support must promote efforts by the poor people to improve their living conditions and provide instruments for meaningful public participation in decision making. The strategy further identifies two activity areas of relevance to this application: empowerment of communities and individuals and sound environment and sustainable use of natural resources.

The World Wide Fund for Nature (WWF) is the world's largest and experienced independent conservation organisation dedicated to the conservation of the Earth's natural environment. It has a global network active in 96 countries in five continents. WWF combines fieldwork and policy to achieve credible results based on broad experience and expertise in all areas of conservation.

WWF's mission is to achieve the conservation of nature and ecological processes by: preserving genetic, species and ecosystem diversity; ensuring that the use of renewable resources is sustainable now and in the longer term, for the benefit of all life on earth; promoting actions to reduce to a minimum pollution and the wasteful exploitation and consumption of resources and energy.

The ultimate goal of WWF is to stop, and eventually reverse, the accelerating degradation of our planet's natural environment, and to help build a future in which humans live in harmony with nature.

WWF-EARPO was launched in 1986, as a programme office of the WWF-International representing WWF conservation project activities in the Eastern Africa sub-region. Other sub-regions in the African Region include WARPO (Western Africa), CARPO (Central Africa) and SARPO (Southern Africa). In the Eastern Africa sub-region, WWF has 25 projects in six countries, including Tanzania, Kenya and Uganda. WWF-EARPO's regional activities include fulfilling conservation objectives on: Forests, Marine /Coastal, Freshwater, Savannah, Environmental Awareness, Capacity building, Policy and Advocacy.

WWF promotes awareness and education at all its project sites in order to empower local communities to take charge and participate effectively in managing their natural resources. WWF does this by clarifying the linkages between the social and economic activities undertaken by communities and the environment, and encouraging on alternative resource use. It is through environmental education programmes that WWF has been able to achieve its conservation objectives where community interests are involved.

*WWF-Sweden* has entered into a contractual agreement with WWF-EARPO to develop and implement an environmental education programme for the Lake Victoria basin and its catchment. WWF Sweden was founded in 1971 and is organised as a Foundation that is guided by a Board of Trustees with

representatives of Swedish organisations, institutions and authorities. WWF Sweden concentrates on five nature conservation programmes; agricultural landscapes, Education & Youth, Freshwater, Forests (Boreal and Tropical) and, Ocean and Coasts. A strong focus is put on sustainable use of resources, education and information.

On September 8th 2005, Swedish International Development Cooperation Agency (Sida)'s Lake Victoria Initiative (LVI) and WWF Sweden signed a two year agreement effective 1st September 2005 and expiring on 30th April 2007 on Lake Victoria Catchment Environmental Education Programme (LVCEEP). LVCEEP's goal is to secure the ecological integrity and sustainability of the Lake Victoria catchment for the benefit of its inhabitants and biological diversity.

The purpose is to promote and influence change in attitude and behaviour of the target catchment communities and schools towards their immediate environment while sustainably using and managing natural resources.

The programme is implemented in specific model sites within the catchment basin, rather than on the lake itself. However, since Lake Victoria basin cover a large area, the main focus is on two river systems; Mara in Tanzania and Kenya and Katonga in Uganda. LVCEEP address problems of pollution, loss of biological diversity, habitat destruction, soil erosion and natural resource depletion. The Programme is facilitating learning processes required to change the attitude and behaviour of the catchment and riparian populations to actively participate in sustainable development and environmental conservation.

During the programme's first two years focus was to be given on building model areas with pilot schools and communities to be trained for the ability of testing and implementing activities and serving as good examples and resources for a wider range of stakeholders. Parallel to this was to be the training of trainers at Teachers colleges, key persons at different Districts and partner organisations to be able to act as multipliers.

Five main activities were identified for implementation. These are; start-up activities, toolkit, formal education, non-formal and networking. These main activities were to be implemented through several sub-activities.

Five specific outputs were expected from the LVCEEP programme:

i. Capacity of teachers and teacher trainers to deliver EE as an integral part of their normal education activities built and strengthened in selected sites.

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

iii. School children understand the rationale for conserving freshwater ecosystems and other natural resources and the linkage between natural resource management and sustainable livelihoods.

iv. Riparian communities achieve capacity to conserve and sustainably manage natural resources within selected sites of the Lake Victoria catchment.

v. A practical partnership building mechanism for EE delivery with and among key stakeholders developed and operationalized

Sida has therefore decided to carry out a mid term review of the first phase of the programme.

### Objectives

The overall objective of the review is to survey if the programme has been developed in accordance with the initial intentions, and if the programme so far has contributed to any significant changes in the area of environmental education in the Lake Victoria catchment.

The review shall serve as a basis for further decisions in Sida, and a guide for the design of the proposed second phase.

### Methodology

The assignment shall be carried out as a mixture of desk studies and field visit. The desk studies shall include studies of relevant reports, including appendices, such as annual reports, development reports, etc. Interviews with relevant Sida personnel, WWF project officers, local stakeholders and project personnel shall be carried out.

### Scope of Work

The mid-term review shall endeavour to draw lessons from the experiences gained, which could be useful for future development of LVCEEP especially in areas where reorientation or change of approaches are required, and to provide recommendations on how to improve the process and institutional arrangement in the next programme phase.

The mid-term review shall:

- Evaluate the overall achievements (successes and failures) of the LVCEEP since its start in November 2005 to April 2007, in relation to objectives, targets and plans and provide the likely causes of such results.
- Evaluate the outcome, impact, sustainability and indicative cost-effectiveness (by relating the activities/projects (and costs) compared to the outputs obtained) of activities.
- Review strengths and weaknesses and find lessons learnt of the current organisation and management of LVCEEP.
- Assess the institutional arrangements for the management, implementation and the M&E functions of the LVCEEP
- Review the Monitoring & Evaluation (M&E) functions of the LVCEEP.
- Assess the relevance of the LVCEEP in the newly ratified Protocol for the Sustainable Development of the Lake Victoria Basin and developments within the Lake Victoria Basin.
- Assess the sustainability of LVCEEP.

Specifically, the assignment shall include, but not necessary be limited to;

- Is project development in correspondence with the LFA?
- The project activities and the indicators shall be assessed.
- What has been done, and what has not, and if so why?
- Any activities, initially not planned?
- What has been done, and if so, the reasons?
- Assessment of any results from the project so far.
- A prospective Phase 2.
- Relevance, activities, planning, etc.
- Actors in the project.
- Discussions on roles of different actors.

**Expected outputs/Report Outline**

The main output from the review shall be a report with an analytical review of the total operations of the LVCEEP from the period 1st November 2005 to 30th April 2007 and make concrete recommendations for the future co-operation.

The report shall not exceed 40 pages. Further it should include:

- An executive summary
- Other information in Annexes (as deemed appropriate).
- Reference to literature and documentations used

The assignment shall be carried out during the period Mid May 2007 to end June.

A draft report shall be presented to Sida not later than 22nd June and Final report shall be completed within one week from the date Sida has given comments. The report shall be written in English.

**Criteria of Evaluating Consultants**

The review shall be carried out by a team of two professional consultants, one of which shall be the team leader with regional experience in project/programme monitoring and evaluation.

The team must also have the following:

- Demonstrated/documented theoretical and practical experience in project/programme implementation, as well as monitoring and evaluation.
- Sound knowledge of sustainable development (social, economic and environmental) and regional approach in development
- Clear understanding of civil society organisation's (CSOs) coordination and networking as well as institutional capacity building for sustainable development
- Sound knowledge of East Africa and the Lake Victoria region
- Understanding Strategy for Swedish support to Lake Victoria Basin.
- Clear understanding of Environmental Education/ Education for sustainable development
- Be proficient in English

# Annex 2: Itinerary and People Met

| Date | Activity | Name of people met | Position | Place & Country |
|---|---|---|---|---|
| 17th/18th May | Literature Review | Irene Karani & James Ndung'u | Reviewers | Nairobi, Kenya |
| 24/5/07 | Meeting in WWF | Susan Matindi | LVCEEP Coordinator | Nairobi, Kenya |
| 25/5/07 | Travel to Kisumu & Homa Bay. Meeting in Lala Primary | Okech Malaki | Headmaster, Lala Primary School. | Homa Bay, Kenya |
| | | Beatrice Ochieng | Teacher Lala, P. School | Homa Bay |
| | | Teresa Mwendwa | Teacher Lala P. School | Homa Bay |
| | | Lillian Oduol | Teacher Lala P. School | Homa Bay |
| | | Kaneki Isaac | Teacher Lala P. School | Homa Bay |
| | | William Magadi | Teacher Lala P. School | Homa Bay |
| | | Florence Odula | Teacher Lala P. School | Homa Bay |
| | | Jane Robert | Teacher Lala P. School | Homa Bay |
| | | M.F Ochola | Teacher Lala P. School | Homa Bay |
| | | Henry Okindo | Teacher Lala P. School | Homa Bay |
| | | Wamweya Charles | Teacher Lala P. School | Homa Bay |
| | | Agnes Ombachi | Teacher Lala P. School | Homa Bay |
| | | Jessica Robert | Teacher Lala P. School | Homa Bay |
| | | Zipa Ogore | Teacher Lala P. School | Homa Bay |
| 25/5/07 | Meeting in Leita Kabunde | Ayamo Josiah | Headmaster Leita Kabunde | Homa Bay |
| | | Osoro Kenneth | Teacher Leita Kabunde | Homa Bay |
| | | Odhiambo Bernard | Teacher Leita Kabunde | Homa Bay |
| | | Florence Ombaka | Teacher Leita Kabunde | Homa Bay |
| | | Pamela Omondi | Teacher Leita Kabunde | Homa Bay |
| | | Osoro Eric | Teacher Leita Kabunde | Homa Bay |
| 25/5/07 | Meeting in Kisumu | Dr. Kapiyo | Training facilitator, Maseno University | Kisumu, Kenya |
| 26/5/07 | Meeting in Nandi Hills, Enego Community | Ezekial Kemboi | Community member, Environmental Conservation Group (ECG) | Nandi Hills, Kenya |
| | | Evalyne Kemboi | Community member | Nandi Hills |
| | | Jackson Tuwei | Treasurer ECG | Nandi Hills |
| | | Rebecca Kemboi | Vice Chairlady ECG | Nandi Hills |
| | | William Koskei | Member ECG | Nandi Hills |
| 26/5/07 | Meeting in Ndurio | Jacob Kirwa | Headmaster Ndurio Primary School | Nandi Hills |
| | | Albert Cherwon | Zonal Inspector | Nandi Hills |
| | | David Lagat | Assistant Chief | Nandi Hills |
| | | Ernest Bungei | Chairman School Committee Conservation Group | Nandi Hills |
| | | Ezekial Koech | Deputy Headmaster | Nandi Hills |
| 27/5/07 | WCK Literature review | | | |
| | Meeting in WCK | Charles Ooko | Training facilitator, Sinaga Girls, High School | Kisumu |
| 28/5/07 | Meeting with NEMA | William Buseinei | NEMA Officer | Kisumu |

| Date | Activity | Name of people met | Position | Place & Country |
|---|---|---|---|---|
| | Meeting with WCK, travel back to Nairobi | Edward Mwendwa | Western Region, Project Officer | Kisumu |
| 12/6/07 | Travel to Mwanza, Meeting in Bunda Teachers Training College and Practicing School | Josephat Rweyemamu | Principal, Bunda TTC | Musoma, Tanzania |
| | | Lugoye James | Environmental Tutor, Bunda TTC | Musoma |
| 13/6/07 | Meeting with Buswahili Primary School and community | Charles Julius | Headteacher, Buswahili P. School | Musoma |
| | | Amos Mchanga | Deputy Headteacher Buswahili P. School | Musoma |
| | | Paulo Mkenye | Teacher Buswahili P. School | Musoma |
| | | Wambura Bugingo | Teacher Buswahili P. School | Musoma |
| | | Juma Nyitunga | Teacher Buswahili P. School | Musoma |
| | | Betrida John | Teacher Buswahili P. School | Musoma |
| | | Mayanga Mwita | Teacher Buswahili P. School | Musoma |
| | | Magera Mwita | Village Environmental Group, Buswahili, Chairperson | Musoma |
| | | Nyikamba Mutatiro | Village Chairperson | Musoma |
| | | Kisangure Mauwa | Village Environmental Committee | Musoma |
| | Meeting with Kirumi Primary | Marieta John | Headteacher, Kirumi P. School | Musoma |
| | | Nyangaria Mangoma | Teacher Kirumi P. School | Musoma |
| | | Lucia Nyarubunda | Teacher Kirumi P. School | Musoma |
| | | Alisurus Mabengo | Teacher Kirumi P. School | Musoma |
| | | Veronica Church | Teacher Kirumi P. School | Musoma |
| | Meeting with Chereche P. School | Thermistocles Kaserwa | Headteacher, Chereche P. School | Tarime |
| | | Wilfrida Nganji | Village government member | Tarime |
| | | Sebastian Okal | Village Chairman | Tarime |
| | | Joseph Ndaro | Teacher | Tarime |
| | | Jabuya Thwondo | Teacher | Tarime |
| | | Lamek Albert | Student Class 7 | Tarime |
| | Meeting with Weigita P. School and community | Leonard Isaiya | Headteacher, Weigita P. School | Tarime |
| | | Joseph Girimwa | Village Executive Officer | Tarime |
| | | Maende Bokeye | Chairman Environmental Committee | Tarime |
| | | Somoko Chacha | Village Chairman | Tarime |
| | | Adrian Johanes | Ward Education Coordinator | Tarime |
| | | Joseph Moya | Ward Councilor | Tarime |
| | | Daniel Mwita | Deputy Chairperson School Committee | Tarime |
| 14/6/07 | Meeting with WWF | William Kasanga | Project Executant, Mara River Basin Management Initiative | Tarime |
| | Meeting with Pemba School and community | Dina Nicodemus | Environment Teacher | Tarime |
| | | Muran Masiwangwe | Chairman Environmental Committee | Tarime |
| | | Patrice Nsongo | Village Chairman | Tarime |

| Date | Activity | Name of people met | Position | Place & Country |
|---|---|---|---|---|
| | | Reginald John | Teacher | Tarime |
| | | Maria Zacharia | Teacher | Tarime |
| | Meeting in Buhemba Primary Practicing School | Willam Makusanyo | Headteacher, Buhemba Primary | Tarime |
| | Meeting in Tarime TTC | Mustapha Salanga | Environment Tutor | Tarime |
| | Meeting in Tarime | Bernadina Nyambito | District Chief Inspector of Schools | Tarime |
| 15/6/07 | Travel to Entebbe, Uganda | | | |
| 16/6/07 | Meeting with Kaswa Environmental Group | Joyce Kawoya and other group members | Chairperson of Group | Masaka, Uganda |
| | | Betty Nende | Member of Group | Masaka |
| | Meeting with Kaswa Education Centre Day and Boarding P. School | Margaret Sigenda | Deputy Headetacher | Masaka |
| | | Lawoko Felix | Director of Studies | Masaka |
| | Meeting with Kisojo Coordinating Centre | Lucas Smarts | Centre Coordinating Tutor | Masaka |
| | | Najitanda Abisaji | Teacher, Kisojo P. School | Masaka |
| | | Margaret Nabundo | Teacher, Kisojo P. School | Masaka |
| | | Turiyahewa Wilson | Teacher, Kisojo P. School | Masaka |
| | Meeting with Nature Uganda | Ada Nshemereirwe | Nature Uganda Field Officer | Masaka |
| 17/6/07 | Meeting with Bisanje Community Group | Jumba Joseph | Vice Chair Bisanje Community Group | Masaka |
| | | Joseph Mayanja | Group member | Masaka |
| | | Eddy Namuleme | Group member | Masaka |
| | | Namirembe Gertrude | Group member | Masaka |
| | | Dennis Kaketo | Group member | Masaka |
| | | Walugembe Fredrick | Group member | Masaka |
| | | Kiwanuka Deo | Group member in charge of Apiary | Masaka |
| | Meeting with Nature Uganda | Achilles Byaruhanga | Executive Director Nature Uganda | Kampala |
| | Travel to Kenya | | | |
| 18/6/07 | Feedback meeting with WWF and Sida | | Irene | Nairobi, Kenya |
| 19th–24th June 07 | Report writing | | Irene and James | Nairobi |
| 25/6/07 | Submission of draft report | | Irene and James | Nairobi |

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