

EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD) EAST AFRICA – LAKE VICTORIA
CATCHMENT ENVIRONMENTAL EDUCATION PROGRAMME (LVCEEP)
MID TERM EVALUATION REPORT
APRIL 2014



TDI youth group's tree nursery and Mwenge Primary School, Tanzania



Left: Modern energy saving jiko made by a School community in Kasese, Uganda;
Right: G S Mwendo School compound, Rwanda

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ACRONYMS:

ESD	Education For Sustainable Development
LVCEEP	Lake Victoria Catchment Environmental Education Programme
NGO	Non Government Organisation
CBO	Community based organization
CSOs	Civil Society Organisations
FGD	Focused group discussion
IGA	Income Generating Activities
REMA	Rwanda Environment Management Authority
TDI	Together for Development Initiative
SMEs	Small and Medium Enterprises
WWF	World Wide Fund for Nature
ESARPO	Eastern and Southern Regional Programme Office
WCK	Wildlife Club of Kenya
SIDA	Swedish International Development Agency
HIV	Human Immuno Virus
HH	Household
AIDS	Acquired Immune-Deficiency Syndrome
DESD	Decade of Education for Sustainable Development
UNDESD	United Nations Decade of Education for Sustainable Development
NEPAD	New Partnership for African Development
MDG	Millennium Development Goals
MP	Member of Parliament
UNESCO	United Nations Educational, Scientific and Cultural Organization
EAC	East African Community
SSI	Semi-structured Interviews
KICD	Kenya Institute of Curriculum Development
RAC	Regional Advisory Committee
KIE	Kenya Institute of Education
UNEP	United Nations Environment Program
UCO	Uganda Country Office
KShs	Kenya Shillings
UShs	Uganda Shillings
TShs	Tanzania Shillings
US\$	United States Dollar
SCENT	School Clean Energy Technology
ToR	Terms of Reference
SFG	School Facility Grant
St.	Saint
KCSE	Kenya Certificate of Secondary Education
KCPE	Kenya certificate of Primary education

M&E	Monitoring and Evaluation
IUCEA	Inter-University Council for East Africa
LVBC	Lake Victoria Basin Commission
IEC	Information and
NU	Nature Uganda
EANHS	East Africa Natural History Society
N/A	Not applicable
OVC	Orphaned and Vulnerable children
MFI	Micro-Finance Organization

EXECUTIVE SUMMARY:

This report is an outcome of the Mid Term Evaluation of the “Education for Sustainable Development (ESD) East Africa - Lake Victoria Catchment Environmental Education Programme.” The project is being implemented by World Wide Fund for Nature (WWF) Eastern and Southern Regional Programme Office (ESARPO) in partnership with Nature Uganda, WWF Tanzania, Rwanda Environment Management Authority (REMA), Rwanda, WWF Uganda (Kasese) and Wildlife Club of Kenya funded by Sida Stockholm. The purpose is to empower catchment communities, schools and regional partners with knowledge, motivation and abilities for sustainable use and management of natural resource. This phase of the project is focusing on addressing Children’s and Youths’ Rights to Education, Health and a Clean Environment through promoting improved learning environment, addressing food insecurity and improved sanitation and health in the schools with strong links to the community within the whole school approach in ESD.

This midterm evaluation exercise aimed at assessing and learning from the process and achievements made by the project. The overall objective was to evaluate the achieved results, implementation strategies and progress towards the project outcomes and document the lessons learnt. This evaluation was commissioned by WWF ESARPO and conducted by the NAJJ Consultants in March - April 2014.

The evaluation employed a mixed methods approach, which was both quantitative and qualitative in nature. Primary and secondary data was collected through literature review, observation, FGDs and interviews. Over 421 children in 44 schools, 70 teachers, 30 Head teachers, 30 CBO and 10 project Staff were interviewed during the process. The quantitative data was analyzed using SPSS while the qualitative data was triangulated to give the qualitative aspects of the report.

There is no doubt that a lot of work has been done in capacity building, advocacy, and policy platforms in the schools and communities. This has brought positive changes in the lives of children, school communities and youths through the programme. The ESD initiatives have enhanced child participation in schools and in the community level perpetuating all the ESD principles. The partners to a large extent have contributed to effective and significant changes in national, regional and Pan African policies and practice in ESD at the national levels, something that can be enhanced through continued targeted curriculum advocacy and action so that ESD is both infused and mainstreamed in the curriculum.

The evaluation team encountered several individuals who, as a result of ESD initiatives, have changed their behaviour and practices. This project has led to a green community with increased food sufficiency in the different project counties. The overall rating of the countries considered the various ESD parameters with Rwanda taking the lead, followed by Uganda then Tanzania and lastly Kenya. Kenya’s rating emanates from an overemphasis on examinations, rendering most students and teachers unable to fully participate in the ESD implementation, rendering the whole school approach to work

least in Kenya. Language seems to be a factor in communicating the ESD agenda, with Tanzania affected most, followed by Rwanda.

As such, it would be helpful to produce English, Kiswahili and French / Kinyarwanda versions of future ESD resources to facilitate full participation by all members.

The democratic space in school has improved as children now have the opportunity to make decisions. They are able to identify potential candidates amongst themselves and participate actively in elections of class prefects, monitors and other club leaders. As a result, children have been able to influence decisions about their lives and participation that have led to remarkable changes in school rules and the relationship between children and teachers. Some teachers are now listening and engaging children positively.

Impact of ESD intervention among teachers

Among the teachers, all respondents knew about ESD, believed in ESD, have benefited from ESD, and believed their school is better off with ESD. As a result of the ESD approach in schools, all teacher respondents believed learning among pupils is more participatory, and teaching is more practical. However, 94.3% are enthusiastic about ESD, while 90% believe others are better off with ESD. In terms of their view about their school practice of ESD, 95.7% feel the school has a green curriculum, learning is practical (95.7%); learning is self driven (70%); teaching is learner centred (79.7%); teachers exhibit ESD in their teaching (95.7%), teachers exhibit ESD in their non-curricular activities (82.6%); use whole school approach (90%); uses environmentally friendly natural resources management approaches (95.7%); uses appropriate technology (77.6%); has a green curriculum (94.2%); has a green non curriculum (82.4%); has an IGA (74.3%); has an outreach activity (69.6%); has a strong ESD club (88.6%); has capacity built other stakeholders (70.6%); has improved livelihoods of host community (80%); and deals with community problems (88.4%). Ownership of the ESD project was highest in Rwanda and Uganda, less in Tanzania and least in Kenya.

In Majengo Primary School in Tanzania, a teacher did comment as follows: '*we are less concerned wenye wanahusika hawako*', clearly distancing himself / herself from the whole project. The same attitude issue was observed in Wahambla Primary School where the head teacher has total commitment, but other teachers are clearly indifferent. This was one case where the whole school approach never existed at all, even though 3 teachers had been taken for training, and a few other interventions done.

Head teacher views about Impact of ESD intervention

The over 20 head teachers interviewed covered Kenya (33%), Tanzania (26.7%), Uganda (13.3%) and Rwanda (13.3%). In their own school assessment, the ESD concept has performed well for their schools, and they are very supportive of, and enthusiastic about it. As such, it has enabled 85.7% to have hand washing facility; 57.1% to have clean water for a whole year; 42.9% have lunch feeding programmes; all have active environment / ESD clubs, are involved in at least a form of environmental

conservation and practice sustainable farming. However, 71.4% of schools have restored fences; 57.1% have woodlots; 78.6% have a vegetable garden; 21.4% have sack mounds; 64.3% have fruit trees; 21.4% have bottle irrigation; 64.3% do recycling; 42.9% have hedge fruits; 78.6% have soil and water conservation; 85.7% has compost manure; 61.5% have tree nurseries; 85.7% have talking compounds; none has nature walks; 28.6% have a form of craft; 92.9% practice proper SWM; all do cleaning of school facilities; 57.1% have a herbal garden; 28.6% use energy saving jikos. In their view, major gaps existed in crafts, lunch programmes (Kenya and Tanzania), nature walks, energy jikos, herbal garden, talking compounds (especially for Tanzania).

Impact of ESD intervention at ESD village level

At ESD village level, Kenya was best in the following areas: hygiene practices (88%); teachers assessment of themselves and their contribution in ESD (96%); Uganda was best in the health and household resilience (food security (81%); sanitation (92%); water supply and access (67%); community positive views about their own contribution to ESD (74%); community greening of schools (85%); household practices of ESD (71%); and head teacher questionnaire response (74%). Tanzania was best in the following areas: teachers' assessment of their school participation in ESD (83%); while Rwanda rated best in: teachers' assessment of their school participation in ESD (92%); teachers' assessment of their participation in ESD (92%). On visual assessment, the change of attitude, talking compounds, school landscaping, food production in schools and fruit tree growing in and around schools was best in Rwanda; Uganda was observed to be best in food security in schools and in homes, school landscaping, talking compounds, as well as use of best energy technologies to improve community livelihoods. Tanzania was very good in attitude issues towards the ESD.

Impact of ESD intervention on youth

Even though the youth interventions are still very new in all the countries, the ESD interventions have been most helpful to youths across the Lake Victoria catchment. The various youth groups have had improved capacity in various fronts. In Uganda, the Together for Development Initiative (TDI) was one of the two most successful, and has its capacity built in catering, advocacy, and marketing. As such the members are able to get an income from their activities for their livelihood. In Kenya, the Lieta Kabunde Environmental group has been able to get an audience with the county government due to their effectiveness in environmental and food security advocacy. In Mwanza, a youth group has created awareness and built capacity of pupils in 20 secondary schools on issues of HIV and AIDS, an indication of its effectiveness conducting its mandate. Other notable examples are the Mutanywana Secondary School energy youth group in Kasese where a number of students have gained skills and knowledge in energy saving cook stove technology that they are already taking charge of the project in the school, and consider the enterprise as the place to work after school.

Impacts of ESD intervention among learners

In terms of personality change (knowledge, skills, attitudes, motivation, values and passion), 92% of pupils feel they improved. Of these, Rwanda rated highest (99%), closely followed by Kenya at second

(95%). It seems the ESD concept has improved the personality of the child in the region. It would be worthwhile having more children getting directly involved in the ESD activities through the whole school approach.

“...ESD has changed my life by training us how to make our environment clean and how to conserve it. It has also provided my school with some garden tools. ESD has provided us with some water tanks and now am happy and can come up strongly and say that my school is full of life due to the existence of green plants in the environment” Kayonde Douglas class 6

Impact of ESD capacity building on learners

The impact of the ESD project on learners is very great based on the changes observed. Nine in ten students have gained skills, knowledge and attitude change through the ESD activities, with Rwanda leading (98%), followed by Kenya (92%), then Uganda (87.7%) and Tanzania (86%). This has 100% correlation with impacts of ESD intervention among the pupils.

Learner Participation in school greening activities.

In terms of pupils participation in ESD activities, summarized as greening, three in four (76.4%) are directly involved in the Lake Victoria catchment ESD Schools, with Rwanda rating the best at 86.2%, followed by Uganda at 80%, then Kenya at 75% and Tanzania at 70%. That Rwanda tops is not strange, given an example of a school where 140 mango fruit trees had been planted at the front of the school, over 20 orange trees, 200 non-fruit trees, well established lawn, a well planned school, and pupils taking care of individual mountain gardens at 7pm. Teachers were also busy with greening activities, staying in school up to 7pm, enjoying the environment, harvesting fruits while marking students work. It was the best example of whole school approach observed in the whole evaluation exercise, and stands out as a model.

“...ESD has done great things in our school and promoted the following things: Greening, water harvesting, food security, collecting manure, health and hygiene and acquisition of knowledge...”
Katusabe Grace, Mpara Primary School

Learner participation in greening activities at home

In terms of exhibition of champion role, 76.5% are directly involved, taking the school ESD idea home. Topping this is Uganda (80%), followed by Tanzania (80%), then Kenya (76.7%) and lastly Rwanda (61.8). Learners engaged in tree planting, landscaping, gardening and water resource management.

Pupil transfer of ESD idea between home and school (the school and home learner champions)

It seems that there is very little correlation between practice at school and home, with Rwanda doing minimal champion role (-24%), followed by Uganda (1.6%) and Kenya (1.1%). Tanzania plays the best champion role, with learners practicing at home being more than those practicing at school, indicating there is maximum community influence by the school (see second table below). This is on the

assumption that the school is the starting / entry point for ESD activities, with the expectation that the ideas flow to home through the child. However, the picture seems a little different when the transfers are compared. Most students (86%) transfer ideas between home and school, with Rwanda leading at 99%, followed by Tanzania (86), then Uganda (84%) and lastly Kenya (80%). The transfer of ESD information from school to the community has been very effective.

Pupil contribution in decision making at home and in school

Decision making by pupils at home and school is fairly high at 90%. However, countries vary, with Rwanda topping (98%), followed far second by Kenya (91), then Uganda (88%) and lastly Tanzania at 86%. This means on the whole, decisions of children is highly regarded both at home and in school.

Children individual / personal hygiene practice

In terms of individual hygiene practice, the learner practice is high (94%). However, the non-complying 6% is statistically significant and require more action. In this front, Tanzania leads at over 96%, followed by Rwanda at 96%, then Uganda at 92% and lastly Kenya at less than 91%. More capacity building and provision of water and hand-washing facilities are required in Kenya and Uganda, both of which are performing below average in this front.

Learner rating of school hygiene situation (learner perceptions about availability and sufficiency of hygiene facilities)

More than nine of ten (92.6%) learners felt they have enough hand washing facilities, and enough clean water to go along. Rwanda tops in this at under 97%, followed by Tanzania (94%), then Kenya (90%) and Uganda (85%). Just like in hygiene practice, Tanzania and Rwanda lead, while Kenya and Uganda are last, showing a more than 80% correlation between hygiene practice and perceptions about availability of facilities in school.

Children coexistence with community (teachers, parents and pupils)

Children generally feel at home with their surroundings, including fellow children, teachers and parents at 92.7%. In this respect, Rwanda leads at 99%, followed by Tanzania (94.7%), then Uganda (89.9%) and lastly Kenya (88.5%). It would seem child personality growth is currently most favorable under the Rwanda environment, and least under the Kenya environment. A child who feels free in the society has a high level of self esteem, and is likely to contribute towards sustainable development than one who feels oppressed and unable to express themselves. Kenya child especially looks stressed by the over emphasis on examinations and examinable subjects, and so have minimal time to freely interact with the society. This approach does not seem to auger well with the ESD philosophy. Therefore close meshing of ESD with curriculum would be key in facilitating child development in the entire catchment. Rwanda, Tanzania and Uganda have taken this a lot further than Kenya.

Children participation in school and regional ESD activities and whole school approach

Seven in ten learners participate in ESD activities (71%), which can be rated as moderate. Once again, Rwanda takes the lead at 88.6%, followed by Uganda at 72.5%, then Kenya (67.6%) and lastly Tanzania (66.5%). It would seem Rwanda engages most of its learners in school and regional ESD activities, while Kenya and Tanzania seem to be engaging a few, most club members who also have no much time to share the ideas with the rest of the pupils. This correlated well with the learner's knowledge and belief in the ESD concept, vis a viz their ESD coordinating club membership. It would be vital for the two last countries to have the ESD concept flow through the whole school, since they embrace least the whole school approach.

Impact of ESD on child lunch programme and student presence in school

Lunch feeding programme exists largely in Uganda and Rwanda, and has significantly improved the school attendance. The existence of, impacts of and child contribution in the programme in the Lake Victoria catchment schools is low at 47%. However, Uganda tops as an upper outlier with a score of 80.6%, followed closely by Rwanda (78.3%), then Kenya at 50.6% and lastly Tanzania at a low 35.9%. It would seem these figures are closely correlated with food security scenarios of the various countries. Tanzania and Kenya need to use the ESD philosophy to improve food and nutritional security at school and at home using appropriate technologies and higher level of commitment to ESD.

Conclusion

Overall, all the four countries performed well above average in the ESD programme under evaluation based on all the assessment parameters. The table 1 below presents the overall performance based on all the ESD parameters assessed.

Table 1: Performance of four countries in ESD intervention

	MEAN	KENYA	TANZANIA	RWANDA	UGANDA
MEAN SCORE (%)	74.2	73	74.8	83.2	76.2
RATING		4	3	1	2

In general, therefore the ESD programme has had a tremendous life changing impact on the communities in which it was implemented, and even in some cases going far beyond expectations, as in the case of outreach schools. On the whole, however, Rwanda was first, while Kenya was last. That overall Rwanda rates best was interpreted as a quick indicator of general enthusiasm about the entire ESD programme in the country. For best performers, Rwanda and Uganda, the success is largely attributed to three key factors: (i) Government and school / community commitment and ownership of ESD. Rwanda's key ESD implementer is a government parastatal, REMA, working with the local District Education Officers where the project is being carried out, while in Uganda, it is fully owned, supported and marketed by the education officers at all levels; and (ii) School commitment to the work; in Rwanda, an unexpected outcome was the decision by each of the 14 schools to have an outreach school, when this worked well in 4 schools, it was scaled up. Thus the outreach school model has had a

multiplier effect and boosted the country's overall performance. (iii) Local interpretation of the ESD philosophy to capture what matters most to the community.

In case of Rwanda and Uganda, as well as Nandi (Kenya), it has come as food and income security. In other countries, it took the same old conventional approach which did not excite the stakeholders. For Tanzania and Rwanda, lack of fully established ESD villages could not enable community views to be collected and incorporated. On the other hand, even though it has ESD villages, Kenya ESD project seems to lack ownership among the school stakeholders, rendering it largely a head teacher / ESD teacher project, with most other teachers being too busy on academic curriculum, and only viewing the ESD project as an opportunity for outing through the seminars they had attended in the past. There is an urgent need to have uniform minimum ESD essential package per country to facilitate comparison. This should describe the bare minimum combination of the various ESD components for certification as an approved ESD school / village.

1.0 THE EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD) IN FOCUS

Several authoritative documents recognize that sustainable development is a journey and not just a destination. Visions and plans for the future need to be negotiated across sectors, cultures and interest groups. To progress towards a more sustainable world, societies also need to learn their way out of unsustainable practices. The quest for new ways of thinking, living and working was given new impetus in 2005 by the United Nations Decade of Education for Sustainable Development (DESD) which was launched the DESD to run within the 2005-2014 period. This was the result of a long process of international deliberation on the sustainability of development models which began in 1972 at the United Nations Conference on Human Development held in Stockholm.

The 1992 Rio de Janeiro conference aptly captured the key global concern as follows: '*Riot or Reorganise*'. In the otherwise called the Rio conference, the international community affirmed the important role of education, training and public awareness in achieving the goals of sustainable development in Chapter 36 of Agenda 21 at the United Nations Conference on Environment and Development. Agenda 21 indicated that all levels of education and training would need to re-orient towards a more sustainable model of development that meets the needs of the present generation without compromising or jeopardizing the capacity of future generations to meet their needs. Through emphasizing education, training and public awareness, Agenda 21 indicated that all sectors of society should be involved in a life- long learning process oriented towards sustainable development.

Ten years later, the Johannesburg Implementation Plan produced at the World Summit on Sustainable Development (2002), confirmed the importance of Education for Sustainable Development (ESD) in achieving the interrelated and intergenerational social, economic and environmental goals of sustainable development. The Johannesburg Implementation Plan recommended the declaration of a UN Decade on Education for Sustainable Development, which was adopted by the UN General Assembly through resolution 57/254 with UNESCO designated as the lead agency. In 2005 UNESCO released an International Implementation Scheme for the UN Decade of Education for Sustainable Development (UNDESD), which has led to implementation processes across the world at regional, sub-regional and national levels.

In March 2006 African Ministers of Education made a commitment to implement the UNDESD in the context of the Second Decade on Education in Africa. Their statement of commitment emphasized the need to situate UNDESD activities within key policy initiatives such as the Millennium Development

Goals, the United Nations Declaration on the New Partnership for African Development (NEPAD), the African Union's Second Decade on Education Plan of Action, and the Dakar Framework for Action aimed at achieving the Education for All goals.

The DESD encourages governments to develop their own strategies and frameworks in order to reorient education and learning towards sustainable development. National agencies and bodies play a key role in leading, but also supporting, learning opportunities for change towards sustainable development across the sectors. This was recognized by the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Conference on Education for Sustainable Development (ESD) held in Bonn, Germany (2009), which restated the need for national plans and actions in this area. The Bonn Declaration (UNESCO, 2009a) and the UNESCO Strategy for the Second Half of the DESD (UNESCO, 2010) recognize that it is important to build a common vision of sustainable development, but also that context specific national strategies are crucial in order to prepare for the complex challenges facing communities across the globe. As such various players have mobilized themselves towards the achievement of the DESD goal. In the eastern African region, governments have played a facilitative role, while encouraging non-state players, including the civil society, to provide complementary role in the achievement of the ESD agenda. The Education for Sustainable Development (ESD) East Africa – Lake Victoria Catchment Environmental Education Programme (LVCEEP) is using education for sustainable development as a strategy to promote the conservation of the Lake Victoria Basin ecosystem while at the same time promoting improved and sustainable livelihoods of the communities living in the basin.

1.1. OVERVIEW AND CONTEXT OF THE PROJECT

The Education for Sustainable Development (ESD) East Africa – Lake Victoria Catchment Environmental Education Programme (LVCEEP) is a Regional Programme that is working in the catchment of Lake Victoria in Kenya, Uganda, Tanzania and Rwanda. The ESD EA Programme is an up scaling of the earlier LVCEEP Phase I (2004 – 2006) and Phase II (2007 – 2012). The programme's goal is to secure the ecological integrity and sustainability of the Lake Victoria catchment for the benefit of its inhabitants and biological diversity. Its purpose is to empower catchment communities, schools and regional partners with knowledge, motivation and abilities for sustainable use and management of natural resources. The programme is being implemented within a regional perspective to include cross border activities to encourage information and knowledge exchange. Inhabitants and biodiversity of the Lake are affected by high levels of silt, reduced water level and pollution. The situation poses a great threat to livelihoods of an estimated 32 million people who directly depend on the Lake. In pursuit of this goal, the programme endeavors to promote and influence change in

attitude and behavior of the catchments communities and schools towards their immediate environment while sustainably using and managing natural resources. The programme is working along the Mara River Basin in Kenya and Tanzania whereby in Kenya, the programme is focusing on Transmara, Nandi Hills and Homabay regions whereas in Tanzania it is focusing on the Tarime, Musoma and Bunda regions. In Uganda the programme is working along the Katonga River Basin to include the Greater Masaka Region and Kyenjojo region. In Rwanda the programme is working along the Kagera River Basin in Muhanga, Kirehe, Nyagatare and Bugesera districts. The current new phase has also included an urban and peri-urban component focusing on three main cities around the lake to include Kisumu, Kampala and Mwanza.

1.2 SUMMARY OF EAST AFRICA EDUCATION FOR SUSTAINABLE DEVELOPMENT PROGRAMME LAKE VICTORIA CATCHMENT ENVIRONMENTAL EDUCATION PROGRAMME

The Lake Victoria Catchment Environmental Education Programme is a regional transboundary programme working in the catchment regions of the Lake Victoria along key river basins. In Kenya and Tanzania, the programme is working along the Mara River Basin in both upstream and downstream sites. In Kenya, the programme is working in the Transmara, Nandi Hills and Homabay regions. In Tanzania the programme is working in the Musoma and Tarime region. The programme in Uganda is focusing on the Katonga River Basin upstream in Kyenjojo and downstream in Masaka. In Rwanda the programme is working along the Kagera River Basin focusing on two districts, Bugesera on the Rwanda – Burundi border and Kirehe districts on the Rwanda - Tanzania border. Since 2012 the programme initiated a peri-urban component that is working near cities adjacent to the Lake to include Kisumu in Kenya, Mwanza in Tanzania and Kampala in Uganda.

Vision: An ecologically stable Lake Victoria catchment with a healthy population involved in sustainable socio-economic activities for sustainable livelihoods.

Overall Programme Goal: To secure the ecological integrity and sustainability of the Lake Victoria Catchment for the benefit of its inhabitants and biological diversity

Overall Purpose: To empower catchment communities, schools and regional partners with knowledge, motivation and abilities for sustainable use and management of natural resources.

Specific Objectives to the Children and Youths' Rights to a Clean and Healthy Environment Component:

To promote:

1. Quality education and learning for school children in the Lake Victoria catchment
2. Conservation of the environment in the Lake Victoria Catchment
3. Food security for school children in the Lake Victoria Catchment
4. Health, access to clean water and improved sanitation for children living in the catchment

5. An empowered youth population in the Lake Victoria catchment for sustainable livelihoods

The programme has been implemented through partnerships whereby in Kenya it is being implemented through the Wildlife Clubs of Kenya; Nature Uganda in Uganda and the WWF Tanzania Country Office in Tanzania. In Rwanda the programme is being implemented in partnership with Rwanda Environmental Management Authority. Since 2012 the programme has also piloted a Clean Energy Champion District, Kasese, Uganda through the WWF Uganda Country Office. The programme has since the new ESD EA Phase from November 2011 received funding from Sida Stockholm to a tune of SEK 15,637,920, including 2013 as an extension/bridging phase.

The implementation was at three levels: schools, youth groups and ESD villages being the target entry points. Whereas the school and youth group agenda are clear and straightforward, the ESD village concept has been based on six pillars. The concept of ESD village for sustainable communities was developed along six development areas of holistic approach and participation; governance; education and learning; cooperation and partnership; management and innovation.

The 2011- 2013 Phase was funded by Sida Stockholm through WWF Sweden and is focused on addressing Children's and Youths' Rights to Education, Health and a Clean Environment. This has been through promoting improved learning environment, addressing food security and improved sanitation and health in the schools with strong links to the community within the whole school approach in ESD. The youth component has focused on youth CSOs and CBOs; capacity building the youth on their role in policy advocacy and capacity building them and supporting them on setting up of sustainable eco-friendly small and medium enterprises that link to conservation of the environment.

The policy component of the programme has focused on supporting countries in which the programme is working in on fast tracking the ESD policy development processes and also supporting the national curriculum centres to re-orient the curriculum to mainstream sustainability concerns. At Regional Level, the programme is working with the EAC countries to push for a Regional ESD Policy for the EAC countries that would help to improve governance for ESD in the region in addition to ensuring the mainstreaming of sustainability in the curriculum harmonization process for the region.

Objective of the Mid Term Evaluation

- a) To evaluate the outcomes and impact of the programme in relation to the programme goals and objectives as guided by the project document.
- b) To assess the contribution of the programme to WWF's Conservation Strategy
- c) To evaluate the aid effectiveness and cost effectiveness of the programme in relation to goal attainment of the programme
- d) To assess the contribution level of the programme in regard to the beneficiaries of the programme

- e) To come up with lessons learnt that can be up scaled in the next phase or replicated in other similar programmes

The midterm review will focus on the achieved results, implementation strategies and progress towards the project outcomes and document the lessons learnt and will address the following evaluation questions of relevance, effectiveness, efficiency, best practices, sustainability, institutional sustainability and impact.

- a) **Relevance:** The extent to which the objectives of the development intervention (programme) are consistent with beneficiaries' requirements, country/regional needs, global priorities and partners' and Sweden's policies. Under this criterion, the relevance of the current strategic plan will be examined.
- b) **Effectiveness:** The effectiveness criterion concerns how far the programme's results have been attained and the specific objectives achieved, or expected to be achieved.
- c) **Efficiency** (sound management and value for money): The efficiency criterion concerns how well the various activities transformed the available resources into the intended results (sometimes referred to as outputs), in terms of quantity, quality and timeliness. Comparison should be made against what was planned.
- d) **Impact** (achievement of wider effects): At the impact level the analysis should focus on the extent or the likely achievement of the overall objective as intended and whether the effects of the programme:
- have been facilitated or constrained by external factors
 - have produced any unintended or unexpected impacts, and if so how these affected the overall impact
 - have been facilitated/constrained by project management, by coordination arrangements, by participation of relevant stakeholders
 - have contributed to achievement of MDGs and EFA as stipulated in the project document
 - have contributed to social and economic development
 - have contributed to poverty reduction
 - have made a difference in terms of cross-cutting issues like gender equality, environment, good governance, etc.
- e) **Compliance:** Assessment of how the activities implemented have been in line with plans and strategies as stated in the project document / strategic plan.
- f) **Sustainability** (likely continuation of achieved results): The sustainability criterion relates to whether positive outcomes of the programme and the flow of benefits are likely to continue after external funding ends or non-funding support interventions (such as policy dialogue, coordination). The evaluation will make an assessment of the prospects of sustainability of benefits

on the basis of the following issues: ownership of achievements; policy support and the responsibility of beneficiary institutions; institutional capacity; adequacy of budgets for purpose of phasing out prospects; and financial sustainability.

- i) **Lessons learned:** Draw some lessons with respect to organizational and operational aspects; and pre-conditions, if any, for continued support.
- g) **Institutional Assessment:** To assess the perceptions of respondents on behaviors, systems and processes that should enable this organization to contribute to the achievement of results in the four dimensions of organizational effectiveness:
 - i) Strategic management – focus on results, strategic direction, thematic priorities
 - ii) Operational management – decision making, financial management including internal systems and controls, human resource management, performance management, portfolio management
 - iii) Relationship management – policy dialogue, alignment with regional / national plans, harmonization of policies and procedures
 - iv) Knowledge management – monitoring results, reporting results, disseminating lessons
- h) **Mainstreaming issues:** The consultants will verify, analyze and assess the integration and impact of cross cutting issues (environmental sustainability, gender, HIV/AIDS, good governance and human rights) in the programme.
- i) **Recommendations and Lessons:** The consultants will give recommendations to WWF LVCEEP and Sida on appropriate revisions of programme design, methodology (including approaches and monitoring) in order to achieve set goals. Recommendations on how the support can effectively be utilized by the programme. The evaluation will also draw lessons from the experiences gained, which could be useful for future intervention formulations; especially areas where reorientation or change of approaches is required or for recommending for adoption in other programme or scaling up in the region.

1.3 Evaluation Approach and Methodology

1.3.1 Evaluation Design

The evaluation employed a mixed methods approach, which was both quantitative and qualitative in nature. The qualitative approach included semi-structured key informant interviews (KII), focused group discussions (FGDs), case studies, critical observations and a broad review of relevant secondary data. On the other hand, the quantitative approach involved the distribution and analysis of structured questionnaires in order to record results.

1.3.2 Data Collection and Analysis

During the inception phase, the consultants established an overview of the available documentation and undertook preliminary interviews with WWF ESARPO.

The Team devised a methodology including an evaluation framework which is presented in full in the Inception Report. The questions provided in the ToR have constituted the central basis for this framework, the data collection and the assessment process.

During the data collection phase, the Team reviewed the programme related literature; primary data collection was conducted through semi structured interviews (SSI's), FGD's and observations in the field. A total of 503 respondents comprising head teachers, teachers and learners were interviewed. During the final synthesis phase, the Team synthesized collected data, analyzed and assessed it and prepared this report.

1.3.3 Methodological Focus

WWF ESD Programme was wide in terms of geographic spread, thematic focus, the number and type of implementing partners around the East African region. The following approach was undertaken:

- In agreement with WWF ESARPO and implementing partners the team sampled the project sites to visit and administer the data collection tools. As a result, the following were sampled
- During the evaluation of the ESD project, the team used participatory methods to engage the various stakeholders involved in the project.
- The targets were (i) schools, from which teachers, learners and head teachers were sampled for participation; (ii) ESD villages from which 30-50 households were randomly sampled, and questionnaires administered to heads of households or a competent mature member; (iii) youth groups to whom sampled membership was involved as discussants in focused group discussions; and (iv) key informant interview of key staff, including project executants, education officers (curriculum) and some members of the core team.

1.3.4 Nature of school respondents

Each sampled school was visited and learners randomly selected from class 4-7 with approximately equal boys and girls; 2-5 volunteer teachers with approximately 1:1 gender ratio; and a head teacher or their legal representative. As a result, a total of 421 learners in 44 schools, 24 districts, and 30 youth groups in the four countries distributed as follows: Kenya (29%), Rwanda (15%), Tanzania (37%) and Uganda (19%), distributed in 12 districts, participated in the guided administration of individual questionnaires focus group discussions and key informant interviews. Of these, the gender was as

follows: Learners (53% males and 47% female; teachers (47.9% males and 52.1% females), with pupil ages ranging from 9 to 23; while teachers ages ranged from 19 and 58 years. Among the pupils, the majority (85.7%) were aged 11 to 16 years, with a few being younger (3.2%), and a few (11.1%) being older. A few were in secondary, while the majority was in primary. At the same time, over 20 head teachers interviewed covered Kenya (33%), Tanzania (26.7%), Uganda (13.3%) and Rwanda (13.3%), while 70 teachers were interviewed. Among the 70 teachers involved as respondents, 18 schools were involved, with 20 (28.6%) from Kenya; 10 (14.3%) from Rwanda; 19 (27.1%) from Tanzania and 21 (30%) from Uganda. Among the 20 head teacher respondents, seven (46.7%) were from Kenya; two (13.3%) from Rwanda; four (26.7%) from Tanzania and two (13.3%) were from Uganda.

Distribution of respondents by country

	learners		Teachers		Head teachers		Total	
Country	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Kenya	123	29.2	20	28.6	7	46.7	150	29.8
Rwanda	64	15.2	10	14.3	2	13.3	76	15.1
Tanzania	156	37.1	19	27.1	4	26.7	176	35
Uganda	78	18.5	21	30	2	13.3	101	20.0
Total	421	100.0	70	100	15	100	503	100

Sampling of teachers

	Schools	Sample	counties	villages	Gender (%)			Age		
	# of schools	# of teachers	# of counties	# of villages	male	female	Non-committal	youngest	oldest	Non-committal
All countries	18	70	4	18	38.6	42.9	18.6	19	58	17.1
Kenya	5	19	3		31.6	57.9	10.5	19	50	26.3
Tanzania	6	19	5	6	42.1	26.3	31.6	27	58	21.1
Rwanda	2	10	1	2	50	40	10	25	40	0
Uganda	6	21	5	6	38.1	47.6	14.3	22	45	9.5

District of survey

	District	Frequency	Percent
1.	Bugesera	64	15.2
2.	Bunda	26	6.2
3.	Homa Bay	24	5.7
4.	Kampala peri-urban	37	8.8
5.	Kasese	19	4.5
6.	Kisumu	51	12.1
7.	Kyegegwa	22	5.2
8.	Musoma Municipality	32	7.6
9.	Mwanza Municipality	50	11.9
10.	Nandi	48	11.4
11.	Rorya	23	5.5

12.	Tarime / Sirare	25	5.9
	Total	421	100.0

Schools surveyed

	Country	SCHOOL	FREQUENCY	PERCENT
1.	Rwanda	G S Mwendo	18	4.3
2.	Rwanda	G. S. Katarara	25	5.9
3.	Uganda	Karambi Secondary School	17	4.0
4.	Kenya	Kibos Primary School	24	5.7
5.	Uganda	Kiburara Primary School	21	5.0
6.	Kenya	Koyo Primary School	24	5.7
7.	Kenya	Kudho Primary School	27	6.4
8.	Tanzania	Ligamba "A" Primary School	6	1.4
9.	Tanzania	Majengo Primary School	23	5.5
10.	Uganda	Mpara Primary School	22	5.2
11.	Tanzania	Mtakuja A Primary School	7	1.7
12.	Uganda	Mugongo Primary School	20	4.8
13.	Tanzania	Mwenge Primary School	26	6.2
14.	Uganda	Nyabuganda Secondary School	2	.5
15.	Tanzania	Nyamalango Primary School	24	5.7
16.	Tanzania	Nyanza Primary School	20	4.8
17.	Tanzania	Nyasho A Primary School	25	5.9
18.	Tanzania	Sang'anga Primary School	25	5.9
19.	Kenya	St Johns The Baptist Primary School	24	5.7
20.	Uganda	St Joseph's Maya Primary School	17	4.1
21.	Kenya	Wahambla Primary School	24	5.7
		Total	421	100.0

1.3.5 Field Data Quality Control

The process of data collection involved the orientation of enumerators to collect information from the households, including data collection procedures, and supervision of the entire exercise. The orientation exercise equipped the data collection team with the skills and techniques required for the administration of data collection and key principles and ethical considerations in data collection for quality control. The team included Dr. Augustine Afullo and Johnson Awuor. The consultants then reviewed the questionnaires to ascertain completeness, clarity and evidence of validity before approval.

2.0 KEY FINDINGS

Key findings of the midterm evaluation are broadly discussed under this section of the report. Finding includes information gathered on six areas, namely: WWF paradigm shift, Performance; relevance; effectiveness; efficiency; impact and sustainability; and networking approaches.

2.0 WWF-ESARPO Paradigm Shift and achievements in policy advocacy

WWF-ESARPO has moved from a project to programme approach where the focus is on addressing conservation issues at an eco-regional level. This means 'scaling up' to focus not only on the people dependent on a particular landscape for them to use available resources more sustainably, but also work to ensure that institutional structures and policies are in place to enable them to use these resources sustainably at present and in the future.

In the 2012/13 period, WWF EA LVCEEP has been working in the catchment of Lake Victoria with schools, communities, local leaders, partners and governments through education for sustainable development (ESD). The ESD East Africa Programme (ESD) covers four countries and its focus geographical areas are the Mara River Basin in Kenya and Tanzania, Katonga River Basin in Uganda and Kagera River Catchment in Rwanda. The aim is to promote the conservation of the Lake Victoria catchment while at the same time promoting sustainable livelihoods. Working through partnerships, the programme is also working in peri-urban areas adjacent to cities along the Lake Victoria including Kampala (Uganda), Kisumu (Kenya) and Mwanza (Tanzania). Partners on the ground include the Wildlife Clubs of Kenya, Nature Uganda, WWF Tanzania Country Office and the Rwanda Environment Management Authority. Working together with schools, community groups, youth groups and policy makers, the programme aimed at ensuring an enabling environment to support conservation work through education. This it has done through policy work, advocacy and capacity building, in close collaboration with its partners.

Policy Work

The programme is supporting national governments in the ESD policy process to ensure that the countries move from strategy to policy. It is working with the national curriculum centres to build capacity on re-orienting the curriculum to address sustainable development concerns. In December 2012, WWF mobilized the policy makers in the current five members of the East Africa Community (Kenya, Uganda, Tanzania, Rwanda and Burundi) to a consultative meeting held in Mwanza with the objective of developing a path towards a common Regional ESD Policy for the EAC that would ensure the mainstreaming of ESD concerns across all institutions in the region and especially in the curriculum harmonisation process among the EAC countries. The workshop expectations were summarized as follows: (i) have a common understanding of ESD as East African countries. (ii) To have a road map that indicates ESD implementation in East Africa. (iii) To be able to integrate into the school curriculum. (iv) To come up with a sustainable ESD policy for East Africa. (v) To know the status of ESD implementation in each country vis a viz the UN Decade of Education for

Sustainable Development (DESD 2005- 2014). (vii) To have a road map on how ESD coordination can be done in East Africa. There have been many such meetings for policy consolidation and advocacy in the region.

A follow up meeting was held in October 2013 in Mwanza which saw the development of a policy brief and a justification framework submitted to the EAC on the need for a Regional ESD Policy for the partner states to improve governance for ESD in the region. This is a critical key that opens the doors to policies that promote sustainable development and mainstreaming of sustainability in many other fields. According to key informants of WWF, this is an agenda that WWF will continue to support.

Other policy engagements have been at a Pan African level with the support of all WWF Africa offices, through national consultative processes across Africa. The most notable result was the development of a Pan African Youth Strategy on Learning for Sustainability. This also involved a Pan African Youth Conference held in Nairobi Kenya during January 2013, with over 35 countries represented. This provided an opportunity for Youth from all over Africa to contribute and have their views and ideas represented in the Pan African Youth Strategy on Learning for Sustainability document. The Youth Strategy provides clear guidelines for diverse stakeholders on how to engage with and empower the youth towards green economies and sustainable development in Africa.

Progress made by Kenya in ESD policy:

The Kenya Institute of Curriculum Development has played a central role in ESD curriculum development. Here is a summary of progress made, achievements and challenges in the WWF coordinated ESD program. The Kenya Institute of Curriculum Development (formerly Kenya Institute of Education) has been involved in the WWF ESD activities given its mandate as the National Curriculum Development Centre in Kenya. One of its key leaders, Dr Lucy Ogol participates in the WWF ESD activities as a curriculum development specialist and consultant/resource person. The Institute has been involved in the WWF project from 2009 (approximately 5 years), by supporting the participation in the WWF ESD Regional Advisory Committee (RAC). The key agenda of the partnership between KICD and WWF was majorly base on the fact that the nation is embracing the ESD concept through the curriculum that is used to impart learning across all levels of education in the country. The major success (including key deliverables delivered and dates) were

- i. Carried out Orientation Workshop for more than 40 curriculum developers, examination officials, Ministry of Education officials and teachers have been trained to understand the ESD concept through a two day workshop (2010);
- ii. Development and production of Kenya Institute of Curriculum Development ESD Policy document (launched at the UNEP, Gigiri), December 2013;
- iii. Development and production of Kenya Institute of Curriculum Development ESD Curriculum Developers Orientation Manual (draft) document (2014).

Among other stakeholders, the involvement of schools (and teachers), and other stakeholders in the process was noted as very key. For instance, the institute has involved the neighbouring schools City Primary and Jamhuri High Schools as project centres, in collaboration with NEMA. The teachers and students have in place activities such as tree planting, games and nature gardens. In the course of the curriculum team- WWF engagement, the key challenges met included:

- Inadequate time to reorient the stakeholders;
- Other clashing commitments that affect the number of staff and their participation;
- Lack of an official national operating policy enabling the curriculum developers to reorient the contents curriculum and support materials;
- Lack of adequate staff to conduct training and awareness sessions across the country;
- Inadequate teaching and learning resources and staff capacity;
- Misconception of the ESD concept and fear that ESD is considered as a subject that can be examined.

The way forward (what was planned but yet to be achieved) for the curriculum issues in Kenya include:

- i. Completion of the Development and production of Kenya Institute of Curriculum Development ESD Curriculum Developers Orientation Manual (draft) document (2014).
- ii. Actual Orientation of the Curriculum developers;
- iii. PROPOSED: (a) A six weeks blended training programme for the teachers in the classroom; and (b) A two year blended training programme for pre-service teachers

2.1 Relevance

The Lake Victoria Catchment Environmental Education Programme focused on schools in the catchment in rural and urban areas to ensure children have access to clean water, a good environment and proper sanitation. The project corresponded to key international priorities of Education for All more specifically the second goal which deals with access, retention and quality of education. On the Millennium Development Goals, the project contributed to the eradication of extreme poverty and hunger (MDG goal1) through kitchen gardening, promoting farming and income generating activities, achievement of universal primary education (MDG goal 2) through increased enrolment in some schools especially in Tanzania and Nandi (Kenya) and ensuring environmental sustainability (MDG goal 7) through wood lots, water and soil conservation, flower and tree planting. The Programme built on WWF's Conservation Strategy and promotes sustainable use of natural resources, reduce pollution and wasteful consumption. The programme engaged with the three pillars of sustainable development which includes social, economic and ecological components and supported the communities to gain skills, attitude and capacity for sustainable development.

The project was built on the previous phases and focused on the empowerment of children and unemployed youth by supporting them on income generating initiatives such as tree nurseries, fish farming, poultry farming and farming. The project has also influenced local communities and leadership to adopt ESD initiatives, enhanced accountability of duty bearer to listen to children within the school, community and internationally through their active participation in ESD days and events. The LVCEEP was anchored on the need for child access to education and health and targeted areas with high levels of poverty, areas with inadequate water and sanitation and hygiene, low enrolment and high drop rates due to costs not covered by the government including meals, uniform, and facilities such toilets. The schools were chosen as the centre of ESD action in the programme area.

At the time of the evaluation, all the sampled youth groups were registered with their respective government departments as community based organizations with ability to mobilize funds for activities. Some of the groups had income generating activities that employ and support them economically through alternative livelihoods which do not destroy the environment.

The evaluation team observed that LVCEEP capacity development for children, youths, parents, PTA and communities ensured transfer of knowledge and replication of best practices in environmental management and livelihoods. The project capacity strengthening has led to strong youth organisations with good understanding of ESD, environmental conservation and livelihoods enhancement. Through the programme communities have developed climate change adaptation mechanisms including planting drought resistant crops, provision of market information systems and irrigation in some cases.

The LVCEEP has contributed to improved capacity and accountability by child participation in decision making in schools, community and national and regional level. The team observed that the project activities were consistent to the overall goal and were contributing to the key outcomes of the project. The level of ownership of the project, the expansion request and the results achieved proves the validity of the project objectives. The programme addressed environmental degradation issues in the catchment, created awareness and participation of communities in sustainable development through education of communities targeted at behaviour change and effective environmental management.

2.2 Project Performance.

The ESD Concept and framework holistically contributes to the three pillars of sustainable development including social, economic and environmental components. In the LVCEEP the project focused on the whole school approach, working with registered youth groups, supporting climate change adaptation strategies, eco friendly income generating activities and clean energy projects. The LVCEEP has made dramatic improvements in the fulfillment of ESD principles and practice, with just a little under three in four (74.2%) of any community member impacted positively by ESD, with variations across countries as shown in table 2 below:

Table 2a: Summary table of results assessed in all countries (% of participants):

	Mean	Kenya	Tanzania	Rwanda	Uganda
% Change in School enrolment (2012-2014)	-6.7	-8.3	4.4	-6.2	-14.1
Impacts of ESD intervention	91.5	95.1	85.6	98.9	86.3
Impact of ESD capacity building on pupil	90	92	86.3	98.1	87.7
Learners' participation in greening activities in school	76.4	75.6	70	86.2	80.1
Learner participation in greening activities at home	76.5	76.7	80	61.8	81.7
Pupil transfer of ESD idea between home and school	85.6	79.5	85.5	99.2	84.1
Pupil contribution in decision making at home and in school	89.6	90.6	86.3	98.1	87.9
Children individual / personal hygiene practice	93.9	90.9	96.3	96	92.4
Children rating of school hygiene situation	92.6	90	94.2	96.8	85.1
Children coexistence with community	92.7	88.5	94.7	99.3	89.9
Children participation in school and regional ESD activities	71.3	67.6	66.5	88.6	72.5
Impact of ESD on school lunch programme	52.2	50.6	35.9	78.3	80.6
Teachers assessment of themselves and their individual role in ESD implementation	93.1	96	91.9	92	92.4
Teachers views about their school participation in ESD	83.8	83.3	83.3	91.8	76.9
Head teacher questionnaire response	65	64.8	61.5	69.2	74
Mean score (%) (plus enrolment)	76.5	75.5	74.8	83.2	77.2
		3	4	1	2

Some indicators were assessed across all the four countries. These included learners in schools, teachers and head teachers. On the other hand, indicators associated with ESD village were assessed in only Kenya and Uganda (Rwanda and Tanzania had only identified the ESD village sites but no implementation had started). Table 2a above show the assessment results of indicators covering all the countries. It demonstrates that a little more than three in four schools, teachers, head teachers and learners either practice and confident about the ESD practice in their schools. In this respect, Rwanda is best, followed by Uganda, then Kenya and lastly, Tanzania.

Table 3b: Summary table of results for indicators assessed in countries with ESD villages (% of household participants):

ESD village assessment indicator	Mean	Kenya	Tanzania	Rwanda	Uganda
Health and household food security and resilience analysis	72	68.1			81
Community Sanitation	90.8	89.8			91.7
Community Hygiene practices	83	87.8			80.1
Community Water	62	60.6			67
Community views about their role in ESD implementation	64.8	59			74.1
Community greening of school	45.6	36.6			54.4
Community Greening of schools by HHs	78.5	74.1			85.1
Impacts of ESD intervention	74.4	79.7			66.7
Household practice of ESD	61.6	63			70.6
Mean	70.3	68.7			74.5
		2			1

In the ESD village assessment, households in Kenya and Uganda responded while the Rwanda and Tanzania ESD villages had just been identified, with no activity implemented yet. As such there was no

need to administer ESD village questionnaires there. For the two countries which participated, Uganda rated best, followed by Kenya (Table 2b). The Uganda ESD households were best in: household food security, sanitation, water supply, household role in ESD implementation, greening of schools by Households, and overall HH practice of ESD (70.6%). Kenyan ESD village households, on the other hand, were best in: felt impact of ESD intervention and community hygiene. The best ways in which HHs rated their villages best were: sanitation (91%), hygiene (83%), green schools (79%), and sanitation (72%). On the other hand, the ESD villages felt least performance existed in their participation in greening of schools (46%), household practice of ESD at home (61%), and household water supply and access (62%).

Table 4: Summary table of results for all indicators assessed (% of participants):

	Mean	Kenya	Tanzania	Rwanda	Uganda
% Change in School enrolment (2012-2014)	-6.7	-8.3	4.4	-6.2	-14.1
Impacts of ESD intervention	91.5	95.1	85.6	98.9	86.3
Impact of ESD capacity building on pupil	90	92	86.3	98.1	87.7
Learners' participation in greening activities in school	76.4	75.6	70	86.2	80.1
Learner participation in greening activities at home	76.5	76.7	80	61.8	81.7
Pupil transfer of ESD idea between home and school	85.6	79.5	85.5	99.2	84.1
Pupil contribution in decision making at home and in school	89.6	90.6	86.3	98.1	87.9
Children individual / personal hygiene practice	93.9	90.9	96.3	96	92.4
Children rating of school hygiene situation	92.6	90	94.2	96.8	85.1
Children coexistence with community	92.7	88.5	94.7	99.3	89.9
Children participation in school and regional ESD activities	71.3	67.6	66.5	88.6	72.5
Impact of ESD on school lunch programme	52.2	50.6	35.9	78.3	80.6
Health and household food security and resilience analysis	72	68.1			81
Community Sanitation	90.8	89.8			91.7
Community Hygiene practices	83	87.8			80.1
Community Water	62	60.6			67
Community views about their role in ESD implementation	64.8	59			74.1
Community greening of school	45.6	36.6			54.4
Community Greening of schools by HHs	78.5	74.1			85.1
Impacts of ESD intervention	74.4	79.7			66.7
Household practice of ESD	61.6	63			70.6
Teachers assessment of themselves and their individual role in ESD implementation	93.1	96	91.9	92	92.4
Teachers views about their school participation in ESD	83.8	83.3	83.3	91.8	76.9
Head teacher questionnaire response	65	64.8	61.5	69.2	74
Mean score (%)	77.7	76.5	79.9	89.6	80.1
Rating		4	3	1	2
Mean score (%) Adjusted with enrolment incorporated	74.2	73	74.8	83.2	76.2
Rating with enrolment incorporated		4	3	1	2

The ESD concept and framework holistically contributes to the three pillars of sustainable development including social, economic and environmental components. In the LVCEEP the project

focused on the whole school approach, working with registered youth groups, supporting climate change adaptation strategies, eco friendly income generating activities and clean energy project. The LVCEEP has made dramatic improvements in the fulfillment of ESD principles and practice as below:

The ESD concept was variously interpreted by various groups: in Kenya, it was interpreted by schools as gardening, while the communities interpreted it as a means to improve food security and income. A case in point is a group in Homabay, Kenya which interpreted it with the following motto:

In Tanzania, it was [: “.....Green stomach, Green mind and Green pocket...”] taken as an environmental concept covering food security and school landscaping. In Uganda, it was interpreted as a means for school and compound beautification, food security for schools and households, and a means to clean and cheap energy (biogas and solar). In Rwanda, it took a food and income dimension, with fruit trees, tree growing and food production being the focus.

There was a maximum ESD project ownership in Rwanda and Uganda, fair level of ownership in Tanzania, and least in Kenya. This is taking into account communities, community based organizations (groups) school pupils and teachers. A case in point in Uganda whereby the students are fully in charge of energy projects in two schools in Kasese District. In one of the cases, a teacher has become full time capacity builder, and has capacity built a group of senior students who make energy saving jikos, some ready for full self employment after school. In Tanzania, a student was asked by the head teacher to prepare the team for the evaluation among her colleagues, and we were amazed at the speed and enthusiasm.

2.2.1 Impact of ESD in the ESD Villages

a) ESD Initiatives in the ESD Villages

The concept of ESD village for sustainable communities was developed along six development areas of holistic approach and participation; governance; education and learning; cooperation and partnership; management and innovation. In the ESD villages, most of the households had interactions with ESD either through trainings offered by partners, through their children from schools where ESD is being practiced. One in two (50%) of ESD village households had undergone ESD training, with 73% heads of households, and 58% of respondents practicing the concept at home. The ESD concept was brought home by: child (54%); or by head of household (58%). This brought up clearly the idea of participation

to make the village an ESD one. The concept is being propagated further through CBOs, of which 46% of HHs are members, indicating an element of cooperation. In terms of household membership of a micro-finance institution which is able to offer them credit for an income generating activity (IGA), 38% are members. ESD households further have their influence in schools through 67% who are part of the school governance, which is an integral component of an ESD village.

In the ESD villages, the level of community member awareness and perception about school ESD project is high with the entire community involved with the whole school approach where a good proportion are part and parcel of the project. As such, 74.5% have a belief the school is following the correct ESD practice through the following; having a green curriculum (88%); using whole school approach (86.7%); using environmentally friendly natural resources management (90.4%); using appropriate technology in its operations (55%); having green non-curricular activities (79.7%); having an IGA (72.4%); having an outreach activity (67.1%); having an environmental club (71.4%); capacity building other stakeholders (54.2%); improving livelihoods of the host community (73.3%); and solving community problems (66.2%).

b) ESD – Community water access and use

Overall, 59% of the ESD village households in the Lake Victoria catchment use improved water source, at a mean of 25.6 liters / person / day, which is above the 15lcd Sphere level for basic survival, but lower than the 30lcd threshold for decent living. Kenyan ESD villages spend 2.2% of their income on water, while Ugandans spend 1.35% on water. Whereas both can be rated as affordable, it is cheaper in Uganda than in Kenya, with 50% households rating it as affordable (56% Kenya and 43% Uganda). However, 52% of the water sources are under committee management, an exhibition of governance as a pillar of an ESD village.

Table 5: Rating and scoring: ESD village Water affordability, access and use (%)

	Mean	Uganda	Kenya
Water charges affordable	50	42.9	55.6
Water sufficient for HH use	84	96.8	78.3
Committee manages water source	52	61.3	47.9
Mean	62	67	60.6

c) ESD village sanitation and Hygiene practices

Hand-washing is a key hygiene practice as well as a key ESD pillar. Over 96% of HHs wash hand at the appropriate times, at least 87% treat drinking water, while 64% have hand washing facility. On the average, 83% households in ESD villages have appropriate hygiene practice, with variations between countries. In terms of sanitation, 99% Households in ESD villages own latrines which are used by all

members, 90% have a dish rack, while 86% have a garbage dumping pit. It means that sanitation as a key ESD pillar is properly entrenched in the ESD villages, thereby enhancing community livelihoods by reducing burden of disease and promoting prospects of wealth and job creation.

Table 6: Rating and scoring: ESD village Hygiene practices

Hygiene indicator	Mean	Uganda	Kenya
Any member of HH cleans latrine	44.4	41.9	45.6
Wash hands after toilet	96.1	96.8	95.8
Wash hands before feeding child	97.0	87.1	98.6
Wash hands before eating	98	100	97.2
Treat drinking water	87.8	96.8	83.6
Have means of hand washing at strategic places	64.8	80	98.6
Mean	83	80.1	87.8

Table 7: Rating and scoring: ESD Village Sanitation practices

Sanitation indicator	Mean	Uganda	Kenya
All HH members use latrine	100	100	100
HH has a dish rack	89.8	83.9	92.5
HH has a pit for dumping garbage	85.7	77.4	89.6
HH uses a latrine	98	100	97.2
HH owns a latrine	99	100	98.6
Mean	90.8	91.7	89.8

d) ESD village house hold income analysis

From the ESD village household income analysis in areas where ESD is practiced, the per capita income is higher than the areas where it is not practiced. The mean per capita daily income is Kshs 31 (US \$0.35) Kenya and Ushs 4109.71 (US\$1.61) for Uganda's ESD villages' non salaried employment (in productive sectors such as business and coffee, tea and banana farming). On the other hand, the salaried households receive ten times less (0.16 US\$) income per day compared with the business and farming households. This means that Uganda's non-salaried households' income is ten times more than their salaried counterparts, and thrice that of the ESD village households in Kenya. This is no surprise since Kenya rates poorest in food security, while Uganda rates very high, with the ESD improving the household livelihood status even more through food and income boost. This implies that with the whole school, and whole community implementation of the ESD, opportunities will arise e.g. for self employment. This falls in the non-salaried sector which the analysis here indicates has better income and wealth creation prospects than even the salaried engagements. An analysis between districts in one country indicates high intra-country differences.

e) ESD village Income Generating Activities

The main economic activities of the HHs are farming (bananas, beans, piggery, poultry, coffee and cassava) and small scale businesses. For 52.9% of the households in the ESD villages, the mainstay of their household economies changed, with the majority citing the ESD skills as a major contributor. This change was also experienced at the micro-enterprise level in the last 5 years, with 63.6% of the 50% HHs who are in SME, changing their SMEs. The life of 10% of the HHs changed for the better due to the following: better prices, ESD training, improved farming methods and skills, better marketing skills, and environmental conservation. One ESD pillar for an empowered society is to produce entrepreneurs and not job seekers, and this has been demonstrated by the changes observed in the ESD villages.

f) Health and household resilience analysis

As a climate change adaptation measure, 79% households in ESD villages have drought tolerant crops such as cassava, with Kenya having more (86%) and Uganda less (64.5%). 67% also use modern farming methods such as approved seed varieties, soil conservation etc. As a result, 72.5% do not have hunger now, an improvement from the past. This has enabled 45% HHs to have lived disease-free for the last 1 year, with 84% of under fives having no malnutrition. To maintain this impressive health status, 81% deworm appropriately, 64% sleep under mosquito nets with 67% using good quality water.

Table 8: Rating and scoring: Health and household resilience analysis

Health and household resilience indicator	Overall	Uganda	Kenya
Deworm every 3 months	63.7	60	65.2
Sleep under mosquito	87.5	96.6	83.6
Water of good quality for drinking	67.4	93.3	54.8
Not been sick in last 1 year	45	80	30
Under five has not had malnutrition condition	84.3	93.5	80.3
HH does not experience hunger now	72.5	93.5	63.4
Use drought resistant crops	79	64.5	86
Use modern farming methods	67	71	66
Mean	72	81	68.1

2.2.2 IMPACT OF ESD ON LEARNERS

Impacts of ESD intervention on school pupils' personality

In terms of personality change (knowledge, skills, attitudes, motivation, values and passion), 92% of pupils feel they improved. Of these, Rwanda rated highest (99%), closely followed by Kenya at second (95%). Overall, ESD has imparted new knowledge (95%), new skills (90%), new attitudes (86%), new motivation (91%), new values (93%) and new energy / passion (93%) to the learners in the catchment. It is therefore apparent that ESD has improved the personality of the child in the region. It would be

worthwhile having more children getting directly involved in the ESD activities through the whole school approach.

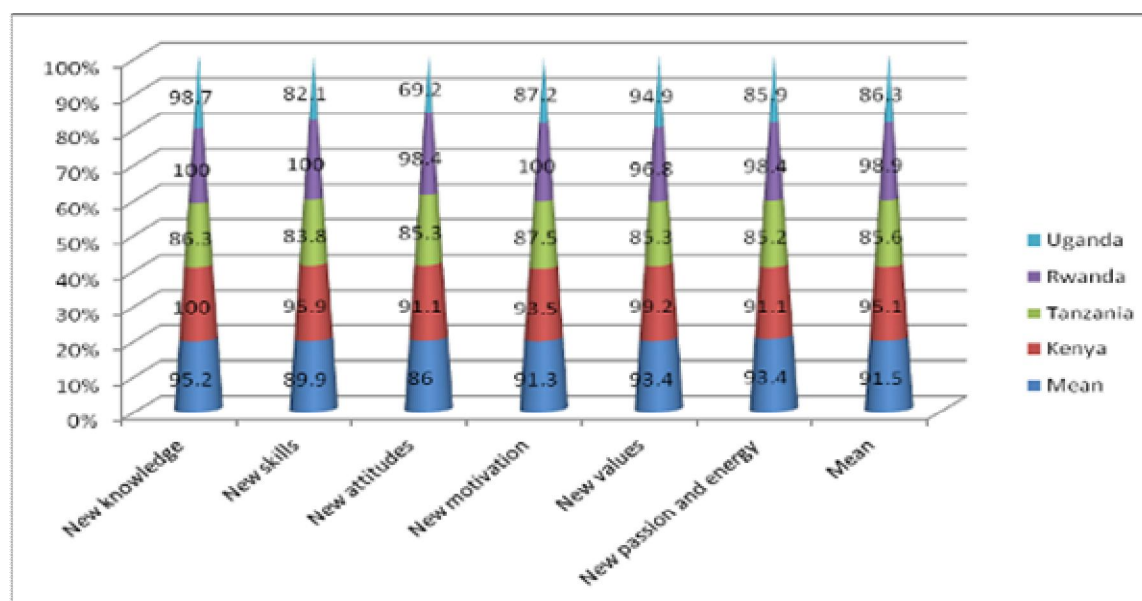


Figure 1: Impacts of ESD intervention on school learners

Impact of ESD capacity building on pupil

Nine in ten students have been empowered through the ESD activities, with Rwanda leading (98%), followed by Kenya (92%), then Uganda (87.7%) and Tanzania (86%). This has 100% correlation with impacts of ESD intervention among the pupils as shown in the preceding table.

Table 9: Impact of ESD capacity building on pupil (in %)

As a result of ESD , I	Mean	Kenya	Tanzania	Rwanda	Uganda
have more self esteem	86.6	90.2	84.4	98.4	75.6
feel better endowed with life skills	90.9	93.5	83	98.4	96.2
can be a better educator	93.8	95.9	88.3	98.4	97.4
feel self motivated and self directed	89.4	90.2	87	98.4	85.7
feel confident and versatile	88.4	91.1	86.3	100	79.2
feel permanently transformed	91.1	91.1	88.8	95.2	92.2
Mean	90	92	86.3	98.1	87.7
Rating		2	4	1	3

Learners' Participation in ESD (greening) activities in school

In terms of pupils participation in ESD activities, summarized as greening, three in four (76.4%) are directly involved in the Lake Victoria catchment ESD schools, with Rwanda rating the best at 86.2%,

followed by Uganda at 80%, then Kenya at 75% and Tanzania at 70%. The high level performance of Rwanda is based on good ESD practices such as: a school where 140 mango fruit trees had been planted at the front of the school, over 20 orange trees, 200 non-fruit trees, well established lawn, a well planned school, and pupils taking care of individual mountain gardens at 7pm. Teachers were also busy with greening activities, staying in school up to 7pm, enjoying the environment, harvesting fruits while marking students work. It was the best example of whole school approach observed in the whole evaluation exercise, and stands out as a model.

Table 10: Learners' participation in ESD (greening) activities in school

	Mean	Kenya	Tanzania	Rwanda	Uganda
Mean	76.4	75.6	70	86.2	80.1
Rating		3	4	1	2



Excellent landscaping in Sang'anga Primary School, Tanzania



A restored fence at Nyasho Primary School, Tanzania



Nyاملango Primary School, Tanzania





A beautiful landscape of Mwenge Primary School, Tanzania,



Mwenge Primary School: An excellent example of an ESD outreach...a neighboring church copied the ESD practices in the school



Mugongo Primary School, Uganda

Learner participation in ESD (greening) activities at home

In terms of exhibition of champion role, 76.5% are directly involved, taking the school ESD idea home. Topping this is Uganda (80%), followed by Tanzania (80%), then Kenya (76.7%) and lastly Rwanda (61.8%).

Table 11: Learner participation in ESD (greening) activities at home

	Mean	Kenya	Tanzania	Rwanda	Uganda
Mean	76.5	76.7	80	61.8	81.7
Rating		3	2	4	1

Learner as an ESD champion

An ESD champion transfers the ESD idea learnt in one location to another e.g. from home to school and vice versa. It seems that there is very little correlation between practice at school and home, with Rwanda doing minimal champion role (~24%), followed by Uganda (1.6%) and Kenya (1.1%). It is in Tanzania where pupils play the best champion role, with learners practicing at home being more than those practicing at school, indicating there is maximum community influence by the school (see second table below). This is on the assumption that the school is the starting / entry point for ESD activities, with the expectation that the ideas flow to home through the child. However, the picture seems a little difference when the transfers are compared as shown below.

Table 12: Learner champions' role (most school ESD influence on community / home activities)

		Kenya	Tanzania	Rwanda	Uganda
Practice ESD at school	76.4	75.6	70	86.2	80.1
Champions (home ESD practice)	76.5	76.7	80	61.8	81.7
School-home differential	+0.1	+1.1	+10	-24.4	+1.6
Rating		3	1	4	2

Most students (86%) transfer ideas between home and school, and qualify to be regarded as champions. In this respect, Rwanda leads at 99%, followed by Tanzania (86), then Uganda (84%) and lastly Kenya (80%). This means there is a high level of impact of schools to the immediate environment.

Table 13: Pupil transfer of ESD idea between home and school (Champion tendencies)

I have transferred a greening project	Mean	Kenya	Tanzania	Rwanda	Uganda
a) from school to home	92.3	92.6	92.9	100	84
b) Idea I leant elsewhere to school	78.8	66.4	78.1	98.4	84.2
Mean	85.6	79.5	85.5	99.2	84.1
Rating		4	2	1	3

Pupil contribution in decision making at home and in school

Decision making by pupils at home and school is fairly high at 90%. However, counties vary, with Rwanda toping (98%), followed far second by Kenya (91), then Uganda (88%) and lastly Tanzania at 86%. This means on the whole, decisions of children is highly regarded both at home and in school.

Table 14: Pupil contribution in decision making at home and in school

	Mean	Kenya	Tanzania	Rwanda	Uganda
a) I contribute towards decision making in school	88.5	98.1	80.6	98.4	83.1
b) I participate in prefect election	91	85.2	90.8	96.8	96
c) I contribute towards school landscape layout	87.2	88.6	84.5	96.8	82.4
d) I feel my decisions are respected in school	89.3	89.4	84.5	98.4	91
e) I feel my decisions are respected at home	91.9	91.8	91	100	87.2
Mean	89.6	90.6	86.3	98.1	87.9
Rating		2	4	1	3

Children individual / personal hygiene practice

In terms of individual hygiene practice, the learner practice is high (94%). However, the non-complying 6% is statistically significant and require more action. In this front, Tanzania leads at over 96%, followed by Rwanda at 96%, then Uganda at 92% and lastly Kenya at less than 91%. More capacity building and provision of water and hand-washing facilities are required in Kenya and Uganda, both of which are performing below average in this front.

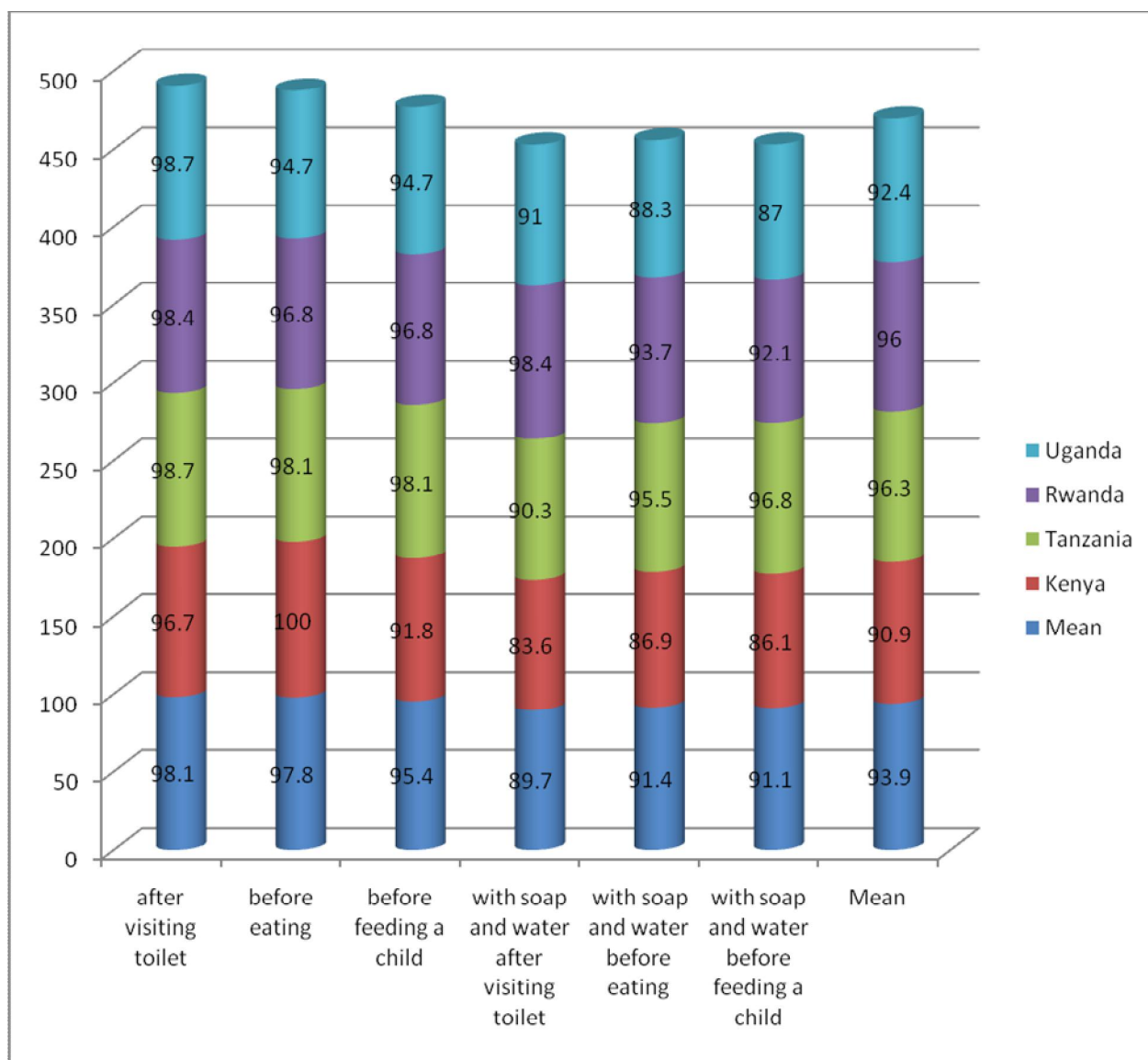


Figure 2: Children personal hygiene practice of Hand washing at critical times.

Learner rating of school hygiene situation (learner perceptions about availability and sufficiency of hygiene facilities)

The availability of hand washing facilities is excellent in the entire programme area. More than nine of ten (92.6%) learners' feel they have enough hand washing facilities, and enough clean water to go along. Rwanda tops in this at under 97%, followed by Tanzania (94%), then Kenya (90%) and Uganda (85%). Just like in hygiene practice, Tanzania and Rwanda lead, while Kenya and Uganda are last, showing a more than 80% correlation between hygiene practice and perceptions about availability of facilities in school. Even though Uganda is last here, its schools have sufficient clean water for hand

washing. There seems to be disparity between availability and use of the water; the practice of hand washing is still lacking in implementation. This is because Nature Uganda provided each school with a water harvesting tank and for majority schools 2 water tanks of 6000 litres capacity, while the government through School Facility Grant (SFG) also provides each school with a tank of 10000 litres capacity.

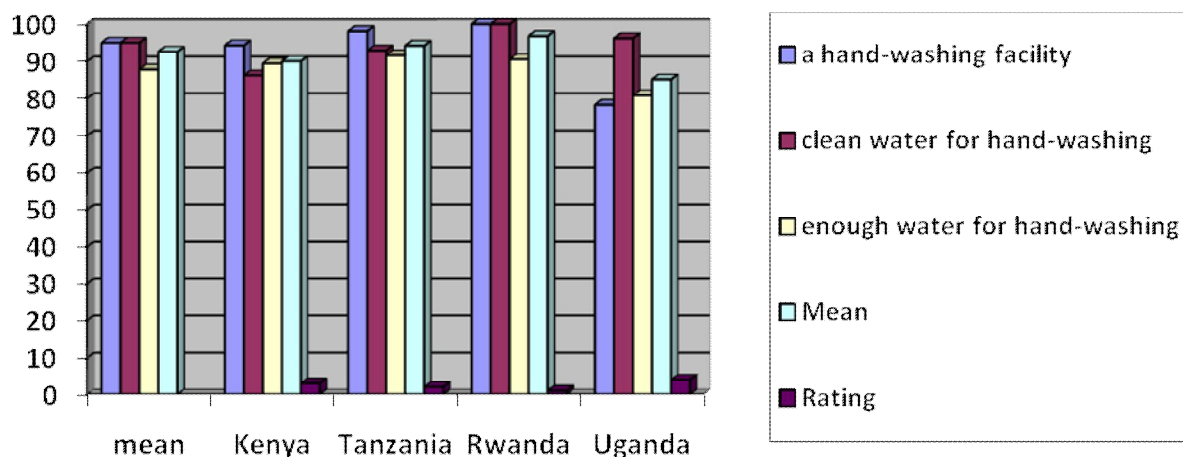


Figure 3: Children rating of school hygiene situation (in %)

Impact of ESD on child lunch programme and student presence in school

Lunch feeding programme exists largely in Uganda and Rwanda. For instance, Karambi secondary school has lunch programme for all its 884 learners, with the school energy project helping reduce the fuel requirement from 20 lorry loads of firewood to 6 per term. This has in turn helped reduce the fuel cost from 4.8 Million US\$ to 1.44 US\$. Similarly, John the Baptist school in Nandi has all its learners on a lunch feeding programme, with a good proportion of this contributed by students through their school gardening activities. On the whole, however, the existence of, impacts of and child contribution in the programme in the Lake Victoria catchment schools is low at 47% since not all schools have successful projects with an impact on school lunch. In this respect, Uganda tops as an upper outlier with a score of 80.6%, followed closely by Rwanda (78.3%), then Kenya at 50.6% and lastly Tanzania at a low 35.9%. It would seem these figures are closely correlated with food security scenarios of the various countries. Tanzania and Kenya need to use the ESD philosophy to improve food and nutritional security at school and at home using appropriate technologies and higher level of commitment to ESD.

Table 15: Impact of ESD on school lunch programme

	Mean	Kenya	Tanzania	Rwanda	Uganda
School has a lunch feeding programme	44.7	36.1	34.4	34.9	87
School lunch feeding programme benefits from my effort in school garden	59.1	63.1	35.9	100	87
Due to school feeding programme, I am never absent from school	52.7	52.5	37.5	100	67.9
Mean	52.2	50.6	35.9	78.3	80.6
Rating		3	4	2	1

2.3 Project Effectiveness

Overall, the programme reached over 20 million directly or indirectly by impacting positively on the water resources they use most which is Lake Victoria. It met its key objectives. Targeting was very good, with purposive sampling being the preferred methodology. The districts fell right as upstream or downstream. Selection of schools and groups was also fair. The schools were chosen from the poor performing schools in access, retention, facilities and infrastructure with the help of District Education Officers so that a comparison could be made on the changes brought about by the project. The LVCEEP made significant contribution to influencing policy changes in school, county, national and international levels. The implementation approach adopted close collaboration with schools, local organizations and youth groups which provided effective channels to project implementation as a delivery mechanism which ensures ownership of the project is vested within the schools and the communities. Effectiveness levels were assessed by evaluating the extent to which the programme had achieved the strategic outcomes and outputs as below:

a) ESD practice in schools

i) ESD and head teachers

In the head teachers' school assessment, the ESD concept has done wonders for their schools, and they are very supportive of, and enthusiastic about it. As such, it has enabled 85.7% to have hand washing facility; 57.1% to have clean water for a whole year; 42.9% have lunch feeding programme; all have active environment / ESD clubs, are involved in at least a form of environmental conservation and practice sustainable farming. However, 71.4% of schools have restored fences; 57.1% have woodlots; 78.6% have a vegetable garden; 21.4% have sack mounds; 64.3% have fruit trees; 21.4% have bottle irrigation; 64.3% do recycling; 42.9% have hedge fruits; 78.6% have soil and water conservation; 85.7% have compost manure; 61.5% have tree nurseries; 85.7% have talking compounds; none has nature walks; 28.6% have a form of craft; 92.9% practice proper SWM; all do cleaning of school facilities; 57.1% have a herbal garden; 28.6% use energy saving jikos. In their view, major gaps existed

in crafts, lunch programmes (Kenya and Tanzania), nature walks, energy jikos, herbal garden, talking compounds (especially for Tanzania).



Left: ESD trophy award to John the Baptist School, Nandi



Right: ESD trophy for Mwenge Primary School, Mwanza



From the data, the team observed that in areas where ESD is being practiced and doing well, there is high level enthusiasm, dedication and commitment of the head teacher to the project. There is a high degree of correlation between the ESD practices in schools and the commitment of the head teachers. Head teachers were found to be more involved in the issues of ESD in Uganda, followed by Rwanda, then Tanzania and lastly Kenya.

ESD activities practiced in schools

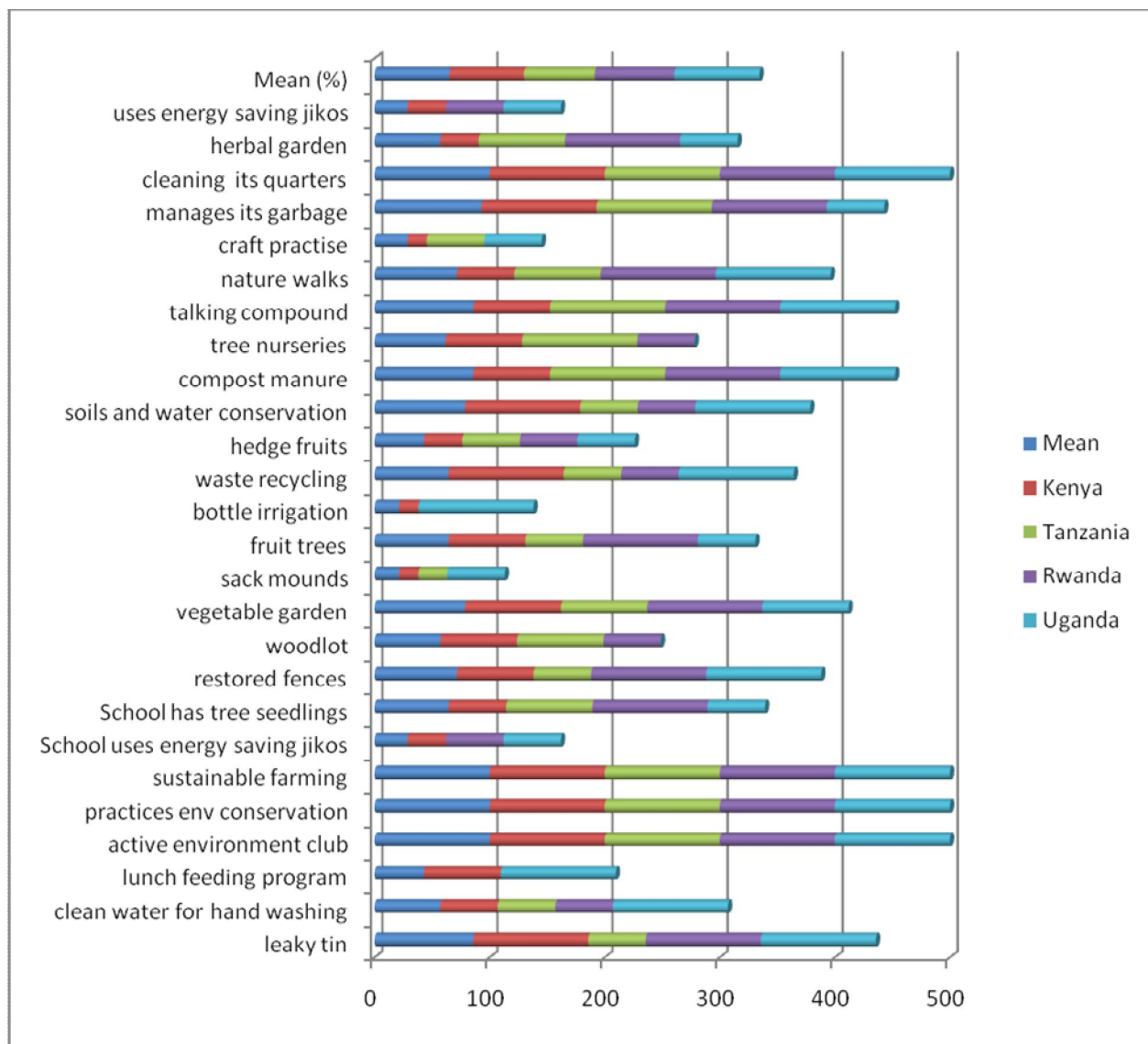


Figure 4: ESD activities practiced in schools

ii) ESD practice in schools and Teachers.

The participation of teachers in ESD has great influence on how ESD practices in school are initiated and managed. In areas where the teachers were committed to ESD, there were better results in terms of awareness, greening initiatives, conservation and income generating activities.

All respondents knew about ESD, believed in ESD, have benefited from ESD, and believed their school is better off with ESD. As a result of the ESD approach in schools, all teacher respondents believed

learning among pupils is more participatory, and teaching is more practical. However, 94.3% are enthusiastic about ESD, while 90% believe others are better off with ESD.

In terms of their views about their school practice of ESD, 95.7% feel the school has a green curriculum, learning is practical (95.7%); learning is self driven (70%); teaching is learner centred (79.7%); teachers exhibit ESD in their teaching (95.7%), teachers exhibit ESD in their non-curricular activities (82.6%); use whole school approach (90%); uses environmentally friendly natural resources management approaches (95.7%); uses appropriate technology (77.6%); has a green curriculum (94.2%); has a green non curriculum (82.4%); has an IGA (74.3%); has an outreach activity (69.6%); has a strong ESD club (88.6%); has capacity built other stakeholders (70.6%); has improved livelihoods of host community (80%); and deals with community problems (88.4%). The major challenge facing teachers' participation in ESD differs by country, but for Kenya, which ranks last in this evaluation, competition between academic curriculum and other activities seem to be the most prominent. This has led to a low level of commitment and enthusiasm, unless one is an ESD teacher or head teacher. Others view it as a unit for outing. For Tanzania, it's the interpretation of the concept by teachers and pupils, largely emanating from the use of Kiswahili as the main mode of communication. Teachers and learners are therefore unable to fully benefit from the many documents published on ESD in the English language. It would be important to publish both English and Kiswahili versions of the ESD documents (booklets, pamphlets and other resources) in the future to enable all members benefit equally.

iii) ESD Practice and school children

The team found out that ESD empowered the school children through new knowledge, skills, attitude, motivation and new passion and energy with Uganda producing more outcomes in terms of change. In general in schools where there was remarkable impact on the children, they tended to carry the ideas home. Observation and visual comparison showed Rwanda standing out tall among others, with excellent landscaping, fruit tree growing, on fruit trees, flowers, lawn, walk ways, talking compound, cassava plantation, student and teacher commitment on various ESD activities beyond the class hours, among others. The Kasese Clean Energy Project renders Uganda a clear outlier, and is one project worth replicating in all the countries. In Karambi Secondary School, John Kule (a senior 6 students) and Miriam Bira (senior 4) are two of the five students who received training. As a result, they enthusiastically manage the energy project, besides training the rest of the learners in school, as well as visiting neighboring homes and schools to spread the idea through seminars. They organize inter-school debates, and have so far debated the topics such as clean energy, and environmental degradation in the past, with other topics planned. So far, 300 homes have been supplied with rocket stoves; while 50 homes are directly involved in the education programme. According to Mr Bahato Muhesi, the school patron of the School Clean Energy Technology (SCENT), this number of beneficiaries could have reached 500 were it not for the cost of installation.



Children washing hands before taking their school meals at St. John the Baptist, Nandi

Learner participation in ESD (greening) activities at home

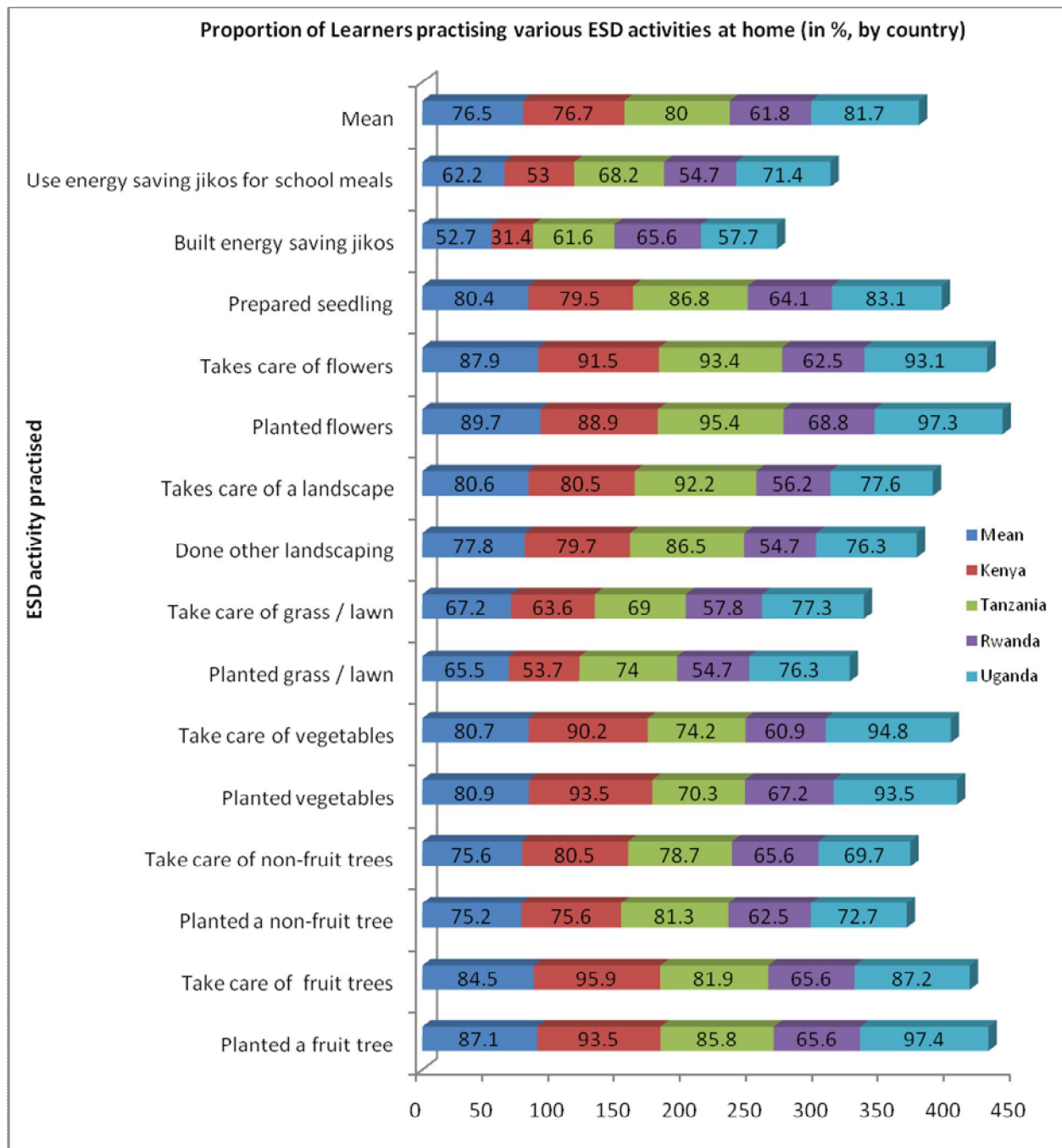


Figure 5: Learner participation in ESD (greening) activities at home

iv) Children participation in greening activities at home and in school

From the data, the team observed that children who practiced ESD activities in school transferred the knowledge and skills to home and either planted tree, fruits and observed hygiene and conserved the environment. In general, schools had gardens with various crops, with bananas and cassava being most

common in Rwanda and Uganda, while Kenya had small gardens of vegetables. The following is a list of some of the greening and farming enterprises in schools:

- Kiburara: goat rearing; sweet potatoes, pineapple, bananas, cassava;
- Nsinde: Banana and pineapple planted and maintained by the 620 pupils;
- Kasese secondary schools: banana plantation;
- Rwanda schools: cassava, vegetables, fruit trees;
- Karambi Secondary School: banana plantation which received the slurry from the biogas (from human waste);

The figure below illustrates the activities of learners in schools, broken down by country.

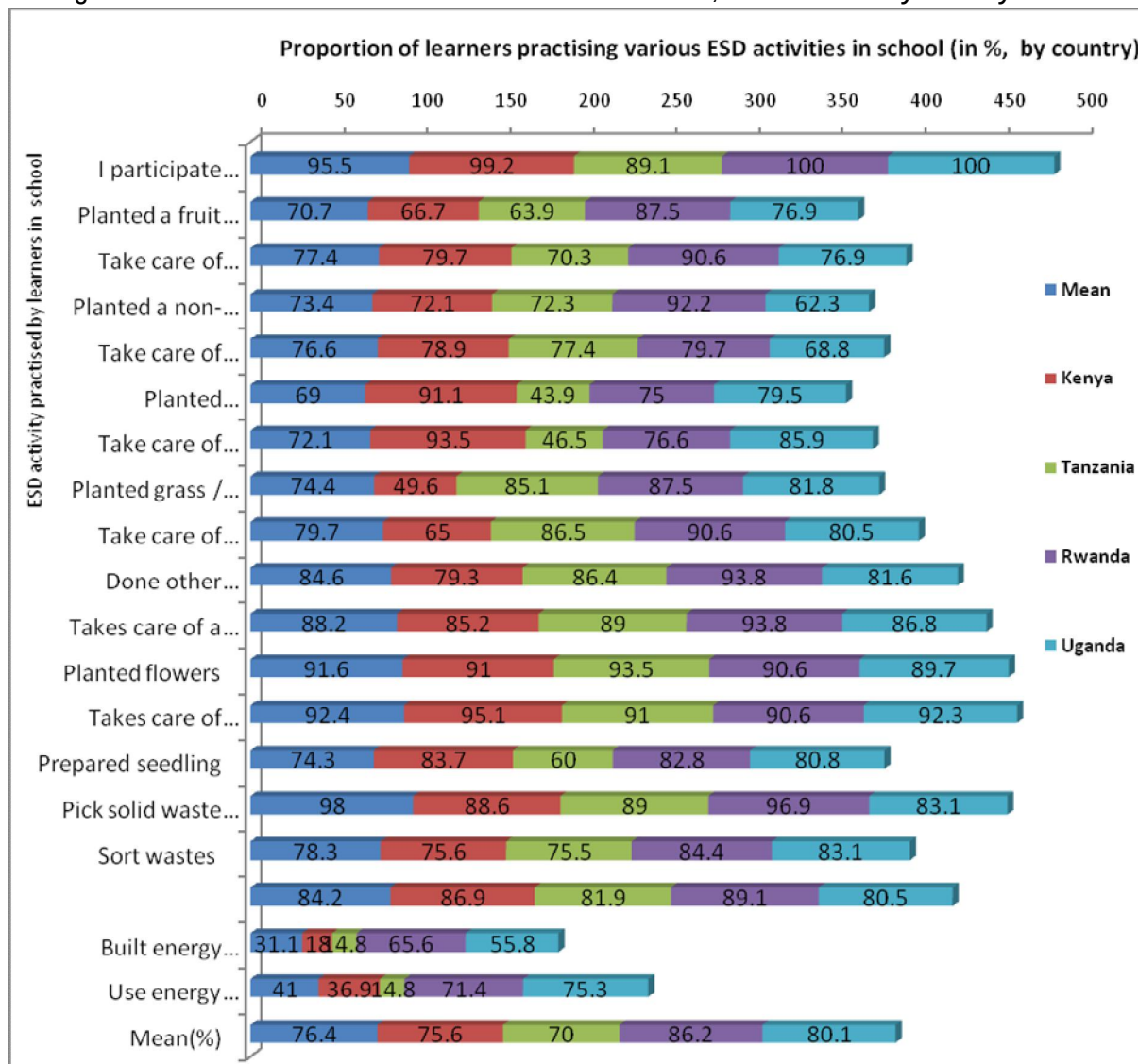


Figure 6: children participating in greening activities

KIBURARA THE TALKING PRIMARY SCHOOL



Kiburara Primary School in Uganda is a model talking school. Though located in a relatively marginal part of Uganda, it has a lot of income generating activities including 2 acres of sweet potatoes, cassava and banana crops. Besides, it has pineapple, goat rearing, among others. In addition, it has a super clean compound, and by all standards, extremely smart pupils. There is partnership with the community such that the goats are kept in the deputy head teachers' compound, with support of the neighboring households. This is an enterprise which has been grown from 4 chickens which they sold and, now they have at least nine goats, and are planning to upgrade this to cattle, which the school thinks requires less attention, and are less labour intensive, and are less destructive. An engagement with teachers during the visit indicated a clear deep interest in ESD activities, and took their time to articulate very well the ESD issues, very thoroughly and patiently to handle each question asked.

Case study 1: Kiburara Primary School, Uganda as a talking compound

In general, Uganda topped in terms of talking compound, with almost all its schools prominently above average in many respects, but very prominently talking compounds. Mpara and Kiburara Primary School s are moving examples, both in terms of numbers (at least 100 messages written in each school), nature and diversity of messages (environmental, life skill, health, moral), form in which they are presented (trees, stones) and the language diversity (English and Luganda). The case presented here is on Kiburara Primary School. It is in a fairly dry part of Uganda, but the school has tried it's best in landscaping, as well as talking compound. The learners are also very smart, disciplined, with clear direction on where to walk in school (nature trail). They also have a goat enterprise, which has grown from 4 chickens, and now they plan to upgrade it to a cattle enterprise because of the destructive nature of goats, which are currently kept in the compound of a volunteer in the community.

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v) Children's role in ESD implementation

The outcome of the LVCEEP is confirmed by the transfer of knowledge and skills to home by school children. The programme has enabled young people to be involved in decision making, good governance and advocacy for the environment. The project has created a sense of confidence and transformation among the children. The children participate in ESD fairs, artwork, and tours and as a result, the children feel confident and are able to engage their parents, peers and teachers on ESD matter.

Children participation in school and regional ESD activities and whole school approach

Children participated very well in ESD activities and the whole school approach. For the entire basin, seven in ten learners participate in ESD activities (71%), which can be rated as moderate. Once again, Rwanda takes the lead at 88.6%, followed by Uganda at 72.5%, then Kenya (67.6%) and lastly Tanzania (66.5%). It would seem Rwanda engages most of its learners in school and regional ESD activities, while Kenya and Tanzania seem to be engaging a few, most club members who also have much time to share the ideas with the rest of the pupils. This correlated well with the learner's knowledge and belief in the ESD concept, vis a viz their ESD coordinating club membership. It would be vital for the two last countries to have the ESD concept flow through the whole school, since they embrace least the whole school approach.

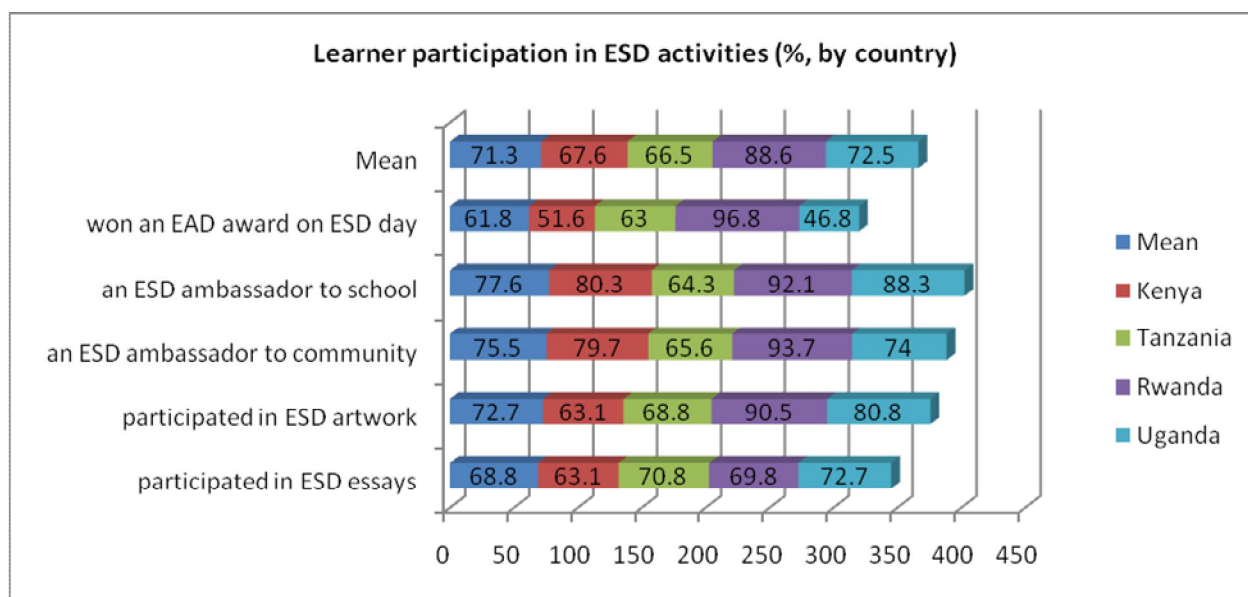


Figure 7: Children participation in school and regional ESD activities

Children coexistence with community (teachers, parents and pupils)

Children generally feel at home with their surroundings, including fellow children, teachers and parents, at 92.7% confidence. In this respect, Rwanda leads at 99%, followed by Tanzania (94.7%), then

Uganda (89.9%) and lastly Kenya (88.5%). It would seem child personality growth is currently most favorable under the Rwanda environment, and least under the Kenya environment. A child who feels free in the society has a high level of self esteem, and is likely to contribute towards sustainable development than one who feels oppressed and unable to express themselves. Kenya child especially looks stressed by the over emphasis on examinations and examinable subjects, and so have minimal time to freely interact with the society. This approach does not seem to auger well with the ESD philosophy. Therefore close meshing of ESD with curriculum would be key in facilitating child development in the entire catchment. Rwanda, Tanzania and Uganda have taken this a lot further than Kenya.

Table 16: Children coexistence with community (teachers, parents and pupils)

	mean	Kenya	Tanzania	Rwanda	Uganda
I hold discussions freely with my fellow learners	94.5	87.7	98.1	100	93.6
I hold discussions freely with my teachers	90.2	85.2	92.3	100	85.9
I ask questions in class without fear	95	94.3	94.8	100	92.3
I ask questions out of class without fear	93	82	98.7	100	93.5
I feel at home in the presence of my teachers	89.5	88.5	90.3	100	80.8
I feel relaxed when discussing greening (ESD) issues with my teachers	90.7	87.8	91	98.4	88.5
I feel relaxed when discussing ESD (greening) issues with my parents	95.9	94.3	97.4	96.8	94.6
Mean	92.7	88.5	94.7	99.3	89.9
Rating		4	2	1	3

vi) ESD and School Performance

Records indicate that as a result of proper implementation of various ESD activities, pupils and teachers were motivated to play their roles even more effectively, and longer. This was due to the improved school teaching and learning environment. This has in turn improved the results by between 10 and 40% in various schools, even though a few are still grappling with the ESD as a concept and view it as a competitor to the academic syllabus. Those who interpreted the ESD philosophy into local actionable messages capable of motivating the community had positive outcome, while the rest either remained static, declines or only marginally improved.

vii) Enrolment in the sampled ESD schools

An analysis of learner enrolment in 13 of the over 20 sampled schools (3 in Tanzania, 2 in Rwanda, 5 in Kenya and 3 in Uganda) which gave complete records of the 2012 and 2014 school enrolment data was done. For the whole region, school enrolment declined by 6.7% (6.1% girls and 7.4% boys). Among the countries, change in enrolment was best in Tanzania, with a +4.4% increment (All other countries registered a decline in enrolment as follows: Rwanda (-6.2% comprising -5.7% for girls and -6.8% for

boys); Kenya (-8.3% comprising -7.1% for girls and -9.5% for boys); and lastly Uganda (-14.1% comprising -16.6% for girls and -11.5% for boys). Thus Tanzania was best, followed by Rwanda, then Kenya and lastly Uganda. Enrolment in schools was affected by several other factors such as cultural factors, poverty and other charges in schools.

A possible limitation is the sampling which could have not included some schools with improved enrolment such as Humura, Nsinde and St Joseph's Maya. Its true enrolment could have been improved enrolment in some of the schools not sampled, or those which were unable to give complete records such as Nsinde. However, the mere unavailability of basic essential data to staff when the head teacher is not available means the whole school approach is never practiced. It means only the head teacher owns the projects and records of the school, and no other has power and authority to do anything in the absence of the head teacher. This undermines the whole school approach and the ESD, which encourages participatory management, cooperation and partnership.

In addition, a school being aware of a key ongoing activity such as evaluation for a project as key as ESD, and in which they are key participants, should never leave any communication gap. For Tanzania, this was fully taken into account, with at least some teachers and students remaining behind even when the schools had closed, or the head teacher being available on short notice upon hearing the evaluation team had reached their school (as was the case with Ligamba Primary School). Schools in Kyenjojo rated poorest in this respect. For instance having been informed of the ongoing evaluation, there should be all the effort to ensure at least one responsible member of the school is available to guarantee the school participation if required.

Ideally, basic data such as enrolment, examination performance, drop out, among others for the last few years, displayed prominently in a staff room and general school notice board would be a good practice among all ESD schools.

Table 17: Enrolment changes in the ESD schools 2012-2014

	Country	Girls	Boys	Total	Comment	
					Best school / district	Worst schools/ district (decline)
1.	Tanzania	9.1	0	+4.4	Mwenge increase by 13.7% (18% girls and boys decline by 7.8%); Nyamlango increase by 13% (boys increased by 13.7% and girls by 10.6%)	Ligamba A decline by 1.4% (2% for girls and 0.83% for boys)
2.	Rwanda	-5.7	-6.8	-6.2	-	GS Katarara (-7.6%) GS Mwendo (-5.2%)
3.	Kenya	-7.1	-9.5	-8.3	Kapkolei (Nandi, +7.3%); Koyo (Nandi, +3.7%)	Kudho (Kisumu, 19.5%); Wahambla (Homabay, -3.8%); Kibos Prison (Kisumu, -4.4%)
4.	Uganda	-16.6	-11.5	-14.1	Kiburara (+5.3%) (13.3% boys, Girls declines at 4.1%)	Mpara (-17%) and Mugongo - 20.9%
	Regional	-6.1	-7.4	-6.7	Tanzania and Nandi districts	Homabay and Kisumu

On the whole, enrolment improved for schools which were performing well in ESD such as in Nandi district of Kenya, as well as most of Tanzania, but declined in Uganda, Rwanda and Kenya's Homabay and Kisumu Districts. This was attributed to improved working environment for both teachers and pupils. In John the Baptist, best KCSE public school in academic results award was achieved in 2013.



Best public School in KCPE in the District: John the Baptist School, Nandi, Kenya

b) ESD Village concept

The ESD village was engaged with the community members based on the ESD framework where all the faces of the community are practicing ESD principles resulting in the responsible environmental management and improved livelihoods. ESD village was based on the community agreement based on best decisions and strategies and then every member of the village implements and peer reviewed and monitored by each other.

The concept of ESD villages has resulted in communities practicing participatory natural resource management with the understanding that sustainability is key for development. In addition, this evaluation found that three in five (61.6%) of the ESD village households practice the following aspects of the ESD at home: engage in environmental conservation (91%); practice conservation farming (93%); has restored home fences (86%); has woodlots (88%); has kitchen gardens (91%); has sack mounds (31%); orchards (82%); bottle irrigations (21%); recycle wastes (54%); hedge fruit growing (57%); soil / water conservation (94%); prepare compost (76%); tree nurseries (64%), talking

compound (26%); nature walks (28%); proper solid waste management (68%); herbal gardens (40%), using energy saving jikos (60%), and practicing at least an ESD activity (97%).

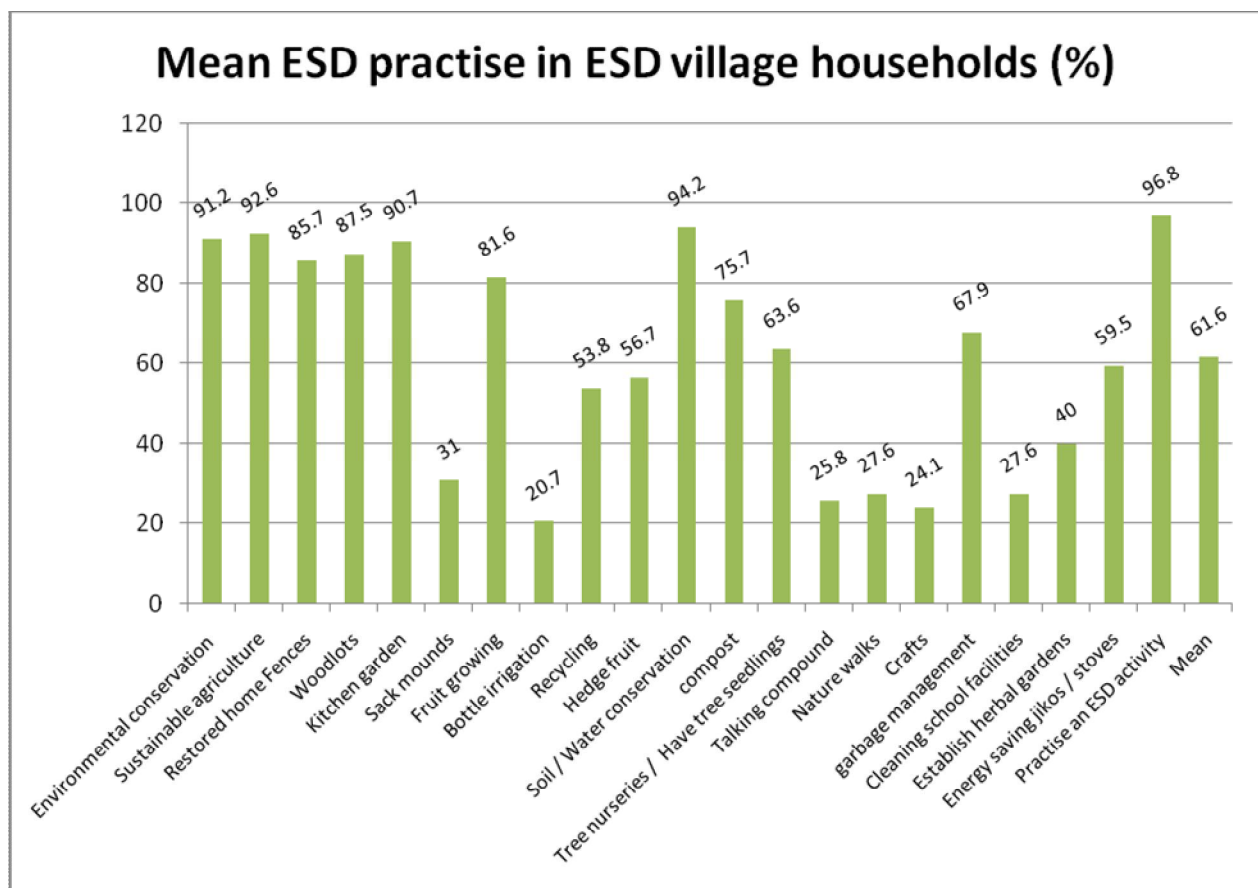


Figure 8: ESD village practice of ESD

c) Youth groups.

The programme has supported a number of youth groups to engage in eco friendly income generating activities. Most of the youth groups were found to be registered as community based organizations by relevant government departments. Some examples of groups and their core activities are listed below.

The groups were effective in reaching the community with conservation information, farming, market information and involvement in environmental conservation. The TDI youth group in Uganda was one of the best among the groups. It was involved in offering market information to farmers, offering catering services, tent, chair hire, poultry project and facilitating planting by providing coffee seedlings to farmers. Its profile is given below.

Table 18: Youth groups sampled

	NAME OF GROUP	PROGRESS	ACTIVITY	COUNTRY
1.	TDI	Made some progress; on course	Coffee seedlings production Agricultural produce Marketing services Catering and cake making services Chair and tent hire Poultry production (1400 birds) Sporting Boxing and other sporting activities; Saving scheme among members;	Masaka Uganda
2.	Mutanywana sec school	On course, tangible results	Energy saving Cook stoves Solar power	Kasese, Uganda
3.	Karambi Secondary School	On course, tangible results	Solar technology Biogas for school meals	Kasese, Uganda
4.	Rwentuuha	On course, still at infancy	Tents and chair hire Poultry (400 chicks) Decorations / functions	Kyenjojo, Uganda
5.	Egumba youth group	Still at infancy	Poultry (17) from given 200 Farming (Maize production), 1.75 acres Tree seedlings and tree planting	Butyama Tanzania
6.	Plan and Act	Still at infancy	Fish farming (2 fish ponds) for tilapia and catfish HIV / AIDS awareness	Kajulu, Kisumu, Kenya
7.	Jasirika group, Dett community	Still at infancy	Environmental conservation Bee keeping (has mounted hives, though not yet with bees)	Tanzania
8.	Enego Community Based Organization	Still at infancy	Poultry Tree seedlings production and planting	Nandi, Kenya
9.	Lieta Kabunde Environmental group	Still at infancy	1 month old poultry project with 70 chicks Goat project Environmental conservation e.g. make gabions Individual farming enterprises	Homabay, Kenya
10.	Bakyala Kwalagana	Good progress	Crafts making Briquettes making	Uganda

Case study 2: Together for development Initiative (TDI), Uganda



The TDI youth group in Masaka, Uganda.



Together for development Initiative (TDI) in Masaka, Uganda has been operational for the last 2 years. It is registered by the relevant government department, and has 20 members, with mixed gender. The top six officials comprise two females and four males. It focuses on food security (poultry), with 1400 three four old birds, almost ready to start laying. They have a partnership with the local area Member of Parliament (MP) in whose home the birds are kept, in a housing unit owned by the MP. So far, there is less than 7% mortality, with 1400 surviving chicken from an initial herd size of 1500. The TDI also has a catering as well as chairs and tent hire service. Through this, it has enabled its members to have cooking and catering, marketing, and livestock production skills. The group also offers agricultural produce marketing services, with prices displayed on its notice board for local entrepreneurs who are keen to use for entrepreneurship. Lastly, it deals in coffee seedling production, in close partnership with the local MP, a partnership which has seen the entire location have coffee plantations. Being in an ESD village, it has had these activities influencing the local population, rendering it a relatively endowed community. TDI is indeed an example of what ESD is meant to do.



Youth group in Masaka, Uganda has partnered with the local MP to distribute coffee seedlings to farmers, and to use the MP's nursery for community education



IGA: Furniture hire and catering services

Case Study 2: Lieta Kabunde Environmental Group, Homabay-



A poultry project with 70 chicks, and 4 goats as IGAs for a Lieta Kabunde group, Homabay County

Clean Energy saving concept

The energy saving project was implemented in Kasese District in three schools who competitively recruited for the awards of the alternative energy projects. The following is a highlight of the clean energy concept:

Case Study 3: Case of Kasese District Clean Energy Champion

The Kasese Clean Energy Champion District initiative aims at establishing a replicable district model that is climate resilient and powered by the efficient harnessing of renewable energy resources to meet all domestic, social and productive energy needs for human development in Kasese district by 2020.

This initiative is being spearheaded by Kasese District Local Government in partnership with WWF Uganda Country Office (UCO) and other actors at local, national and international levels. WWF UCO with support from WWF Eastern and Southern Africa Programme Office (ESARPO) seeks to support the engagement of young people in finding community challenges related to energy access in Kasese district. It is therefore anticipated that through this initiative, youths in secondary schools in Kasese will effectively participate in enabling the transition to clean, renewable and affordable energy services for domestic, productive and meeting the social needs in Kasese district. This project seeks to engage the 33 secondary schools within the district to participate in a competitive process to present and implement innovative ideas promote sustainable energy solutions through a collaborative process involving the students, school administration and surrounding communities. Through which the best five (5) Schools will be selected and the student teams supported to implement the proposed sustainable energy ideas.

The schools through the project have solar energy for school lighting, using improved jikos making huge savings in expenses for firewood. The clean energy concept has gone in the communities as outreaches of the school. School students in one of the secondary schools in Kasese had been trained in making improved jikos who have also trained the communities.



St Joseph's Maya Primary School energy saving jiko and roof mounted solar panel for tapping sustainable energy

Case study 3: Karambi Secondary School, Kasese, Uganda, Case study of clean energy & smokeless cooking technologies

Karambi secondary school in Kasese, Uganda, is one of the ESD flagship projects. It aims at providing cheap and environmentally energy solutions to households, covering both cooking and lighting. As a result, it has initiated a successful biogas energy project in which the school community gets all its meals made by energy derived from the fecal waste from the school community. This is already working well, and saving the school all the expenses and agony of looking for other energy types. To facilitate its cooking, it uses fuel saving technologies devoid of smoke, having successfully designed a cooking pan which covers the entire surface of the cook stove, leaving no space for smoke to pass through. It therefore plays twin role of energy saving as well as maintaining the health of those working in the kitchen by keeping them free from air borne pollutant, smoke which is an occupational hazard, and normally causes respiratory diseases. The project has trained a team of students to be fully in charge of the biogas system. They also deal in a solar technology system which they are the local agents. From this solar project, the neighbors are already enjoying the lighting service, with another more than 100 having applied to be given the service as well.



Karambi Sec School (Kasese, Uganda) Student operator demonstrates how the bio-digester works



Senior student operator of the bio digester explains how it works.



The stoves using biogas tapped from the school latrines



Extreme left: a smoky cooking pan loaded on an energy saving jiko; Middle and extreme Right: Improved smoke free energy saving jikos used by the school, using smoke preventing pan



Solar energy in Karambi Secondary School: Impact on the neighborhood. The school is in charge of spreading the solar technology to the neighbors. Already it has an order for about 100 households.

Solar energy in Karambi Secondary School has been spread to the homes of school neighbors. For instance, Mr John Nyakana shown above is a clear evidence of impact of the project on the neighborhood (Kyamuhamira village). He has moved from using candles to solar energy. The school is in charge of spreading the solar technology to the neighbors, at a cost of US\$ 350,000 per household, with a 2 year guarantee. The WWF / partners give US\$ 20,000 for installation labour. The project trained one local technician from the village. Already the school has an order for 200 households which its' implementing with a partner, Solar for Africa based in Mbarara. The school receives community orders, make payment through the school, (the local agent). It offers a guarantee of two years for the installation. For some, however, it is a little bit expensive, and the replacement bulb may be difficult and expensive to get, since the current one in use come from Japan. The solar technology in Karambi community has helped in the following ways:

- a. It has reduced the household cost of purchasing paraffin, which used to be Ush11,000 per month, now spend nothing;
- b. Children can study at home without worry about lights going off;
- c. Healthier living because the indoor air pollution and diseases associate with it are reduced;
- d. The security light has improved security of the neighborhood;
- e. Has greatly improved the reading culture among the children, saving them from straining they used to experience in the past;

Challenges of the technology:

- i. It's a little expensive for many households;
- ii. The unique bulb made in Japan is not yet available in the local market and may render the technology redundant once a point of bulb replacement comes;



Case study 4: Energy saving jikos : Mutanywana Secondary school, Kasese, Uganda

Mutanywana Secondary School in Kasese, Uganda came out at the top in a competition in which the schools to be involved in the energy project was to be chosen.

Its energy project started 1 year ago, and is just taking shape. In the first year, the project trained an entrepreneurship teacher who is fully in charge of the project. In turn the teacher has translated the project into a key school and community income project, with a number of community members trained, and a number of students who are now fully able to make the cook stoves. Over time, the households have even improved the designs, with the pictures shown above indicating the incremental improvement of the stoves. Any one stove made gives a profit twice the cost of the material, going by the market cost of the project.





Clean energy team in the school has been able to conserve and protect the school and the environment around. This has been achieved through the construction of both improved charcoal and firewood cook stoves for demonstration and use by the school and the community. These improved cook stoves have been on demand since they are economical and does not pollute the like the past methods of cooking. The members have been training the students (youth), staff and the entire community on how improved cook stoves are made and how they operate. As a result many people have got skills and have started to mould for themselves and train the rest of the community members.

From the evaluation, one woman from Karwemera Village who is using the improved cook stoves and cooking pans says that her improved cook stove has reduced the eight pieces of firewood she could use in the past to two or three (2-3) pieces hence saving some money for some activities. The school's improved cook stove has helped to reduce the logs of firewood used from one teeper per week to seven wheelbarrows. In addition,, the smoke production has been reduced which could lead to health hazards, as well as seriously reducing fire accidents like burns and scalds. This has helped to reduce the cost on paraffin and other fuel needs in the community.

The school team has a training ground and sometimes moulds bricks for sale to meet their needs for example Kibaba Mika (senior 4) has been able to buy a school uniform after molding 300 bricks each at Ushs100 and was able to get Ushs 30,000 for uniform.



Left: Jasper and Isaac showing the curved bricks they use for making jikos

Right: A community member part of the energy capacity building: Next to her is the stove type she makes



Left: A raised jiko with 2 students who lead in the stoves making project;



Right: 4 champion students who make energy saving jikos



Left: Materials used for making the jikos;



Right: Solar energy in the neighboring maternity unit



Community modified jiko, locally made by teachers and students of Mutanywana Secondary School.

d) Training and Capacity building

In this last phase of the project there were few capacity building initiatives such as training of children, teachers and communities. This accounts for the dismal performance among most youth organizations. Standing out among them, though, is the energy intervention in Kasese where the senior school students are in the project as youth group, with very impressive impacts. The ESD days were very effective and those who won awards were highly motivated. A number of schools displayed their trophies and certificates very prominently in the school office. Even though only 20% of the ESD village HHs had been trained on various ESD activities, the capacity building intervention made the community improve, with at least 80% practicing at least one ESD activity.

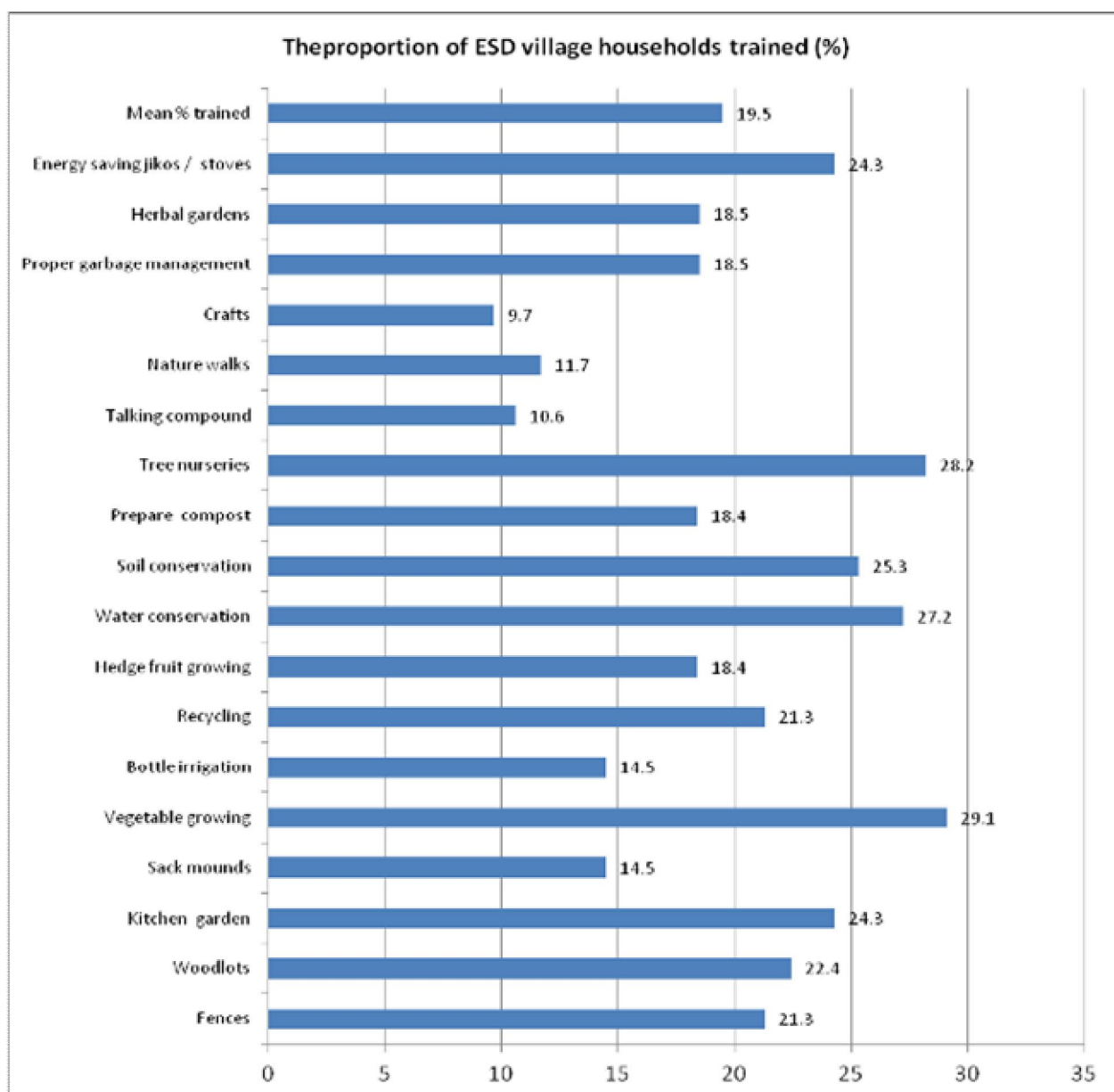


Figure 9: Training and capacity building of ESD village communities (% trained)

Through the project, WWF ESARPO produced an ESD Model School Report and a Manual on Eco Friendly Income Generating Activities. Though they were produced, the team could not establish the extent of use in the trainings of schools and communities since very little reference were made to them during the trainings.

Income Generating Activities (IGA)

The programme supported eco friendly income generating activities as an economic component for creating employment opportunities, for youth empowerment and livelihood improvement for the communities living in the catchment. By the time of the evaluation most of the groups had just

received the support and not much had been achieved in terms of financial gains from the projects. However, Nandi Schools had tea and student plots with sweet potatoes, beans and onions; Tanzania Schools had cassava and maize; Uganda Schools had banana plantations, Kasese Senior Schools had very effective energy projects; while Rwanda Schools had cassava, banana and fruit trees. Most also had woodlots as an IGA.

e) Food Security and Climate change adaptation programme

The schools and communities through the programme adopted strategies that were adaptable to the environmental conditions in the areas. A number of schools planted trees, drought resistant crops (such as cassava) and environmental conservation (such as Tanzania terrace planting). Of all the households surveyed in Lake Victoria catchment ESD villages, 29.53% use various means of coping with food insecurity. On the average, 79% has a drought resistant crop; 67% use modern farming methods; 15.7% have had a child suffer from malnutrition; 52% experienced hunger before the introduction of ESD, compared with the current 27.5%, indicating an improvement of over 25%. On the whole, 30% HHs had to resort to some form of coping strategy amidst hunger, implying this is the regional prevalence of food insecurity. This varies with countries as follows: Kenya's food insecure is 34.4%, while its 18.4% for Uganda. Kenya's 49% experience hunger 5 years ago, compared with the current 37%, indicating an improvement of 12%, while among the Uganda households surveyed, 58% experienced hunger 5 years ago, compared with the current 6.5%, indicating an improvement of 53%. The majority attribute this improvement to ESD interventions.

Table 19: Adaptation to climate change and household resilience

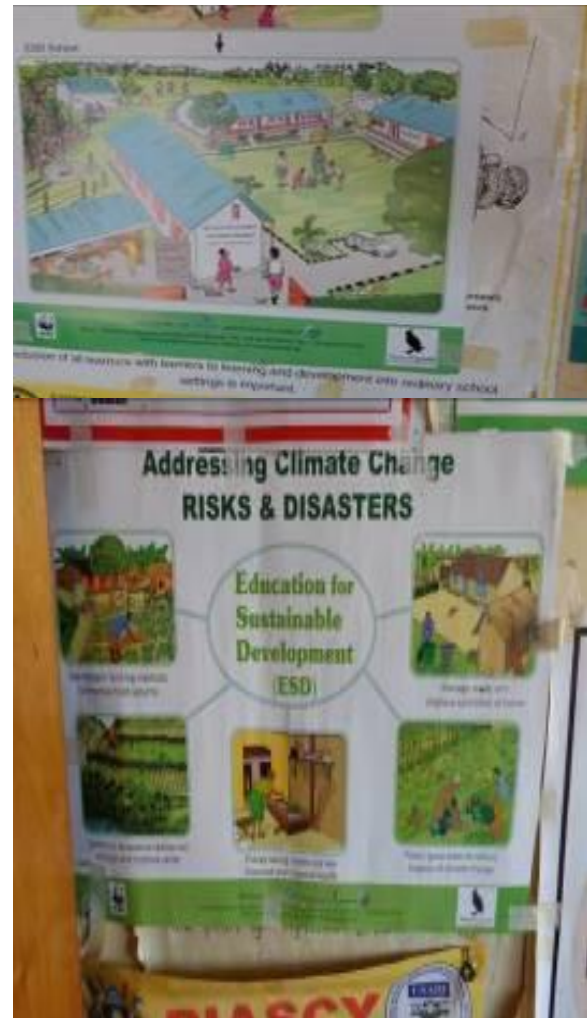
		Total
1	Has a drought resistant crop in farm	79.2
2	HH uses modern farming methods	67.3
3	Child has been diagnosed of malnutrition	15.7
4	HH had hunger 5 years ago	52
5	HH has hunger now	27.5

f) Communication and IEC materials

WWF and its partners did very well in terms of producing IEC materials. These were very informative and very colorful, and were largely posters, though calendars were also produced. The other resource materials including the whole school approach, as well as sustainable enterprises were available to most implementing organizations such as schools and groups. The subjects were broad based, covering risks and disaster, climate change, whole school approach, energy saving cook stoves, briquettes, among others.

In most of the schools and youth organizations, there were IEC materials displayed or distributed. The IEC materials have been an effective way of communicating the principles and the concept of ESD.

The IEC materials were prominently displayed in most schools and community groups, especially the head teachers and CBO offices. They were largely in English language, which was observed to limit their utilization by some target groups such teachers, pupils and communities. There is need to have a mix of languages in the IEC materials for wider understanding by the community. Some of the IEC materials displayed in various ESD institutions are hereby shown.







2.4 Project Efficiency

The project implementation and achievement levels indicate insufficiency of the funding towards the planned activities. The evaluation team observed that there was a low staffing level considering the coverage of the project which impacted on the implementation, effectiveness and monitoring and evaluation of the project activities.

At the country level, the project activities were implemented by the core team who had been trained on whole school approach, climate change adaptation and income generating activities which were effective because of their understanding of the environment and cost effective. The project trained 7 core team members who supported the implementation on the ground. This has worked well and this model is now being replicated in other WWF programme in Africa and beyond due to the success it has brought on the LVCEEP. Most of the project activities were done in the later part of the project implementation. The initial annual work plans were not followed due to the delay in the funding process and had to be revised.

The project implementation and achievement levels indicated insufficiency of the funding towards the planned activities as most of the groups were given facilities which could not adequately address their needs. The financial accounting and reporting procedures were followed, standard books of accounts exist and budget controls were put in place. For example, payments were only done on approved budgets and any budget changes were done in consultation with the donor. The Partners demonstrated a high level of efficiency in the use of resources. Resource use was as budgeted. The

project has minimal cash handling with schools and youth groups supported in kind with the materials and facilities that could facilitate their work.

In promoting ESD in schools the project supported greening initiatives in schools by providing water tanks, hand wash facilities, rakes, wheelbarrows, waste bins, trees seedlings and hoes among others. For youth groups they were supported with tanks, chicks, iron sheet, protective devices, and beehives. The figures below indicate the financial resources availed for LVCEEP activities by country.

Analysis indicates that the project resources were enough, well directed, with 87.5% of the total project funding directly going to the implementation and only 12.5% went for administrative costs. This broadly shows the efficiency in the project implementation. The programme was cost effective and provided for most of the project activities. However, delays in funds disbursements led to project implementation not being as timely as should it have been due to long financial procedures such as sub-contracting, processing and disbursement of from WWF to the implementing organizations.

Table 20: Project budget: LVCEEP- OVERALL FINANCIALS

Analysis and summary of the financial aspects of the programme in dollars

	2012	2013	Total
Project funding	9,744,864	5,900,000	15,644,864
Direct Project costs	8,526,756	5,162,599	13,689,355
Administrative Costs	1,218,108	737,500	1,955,608

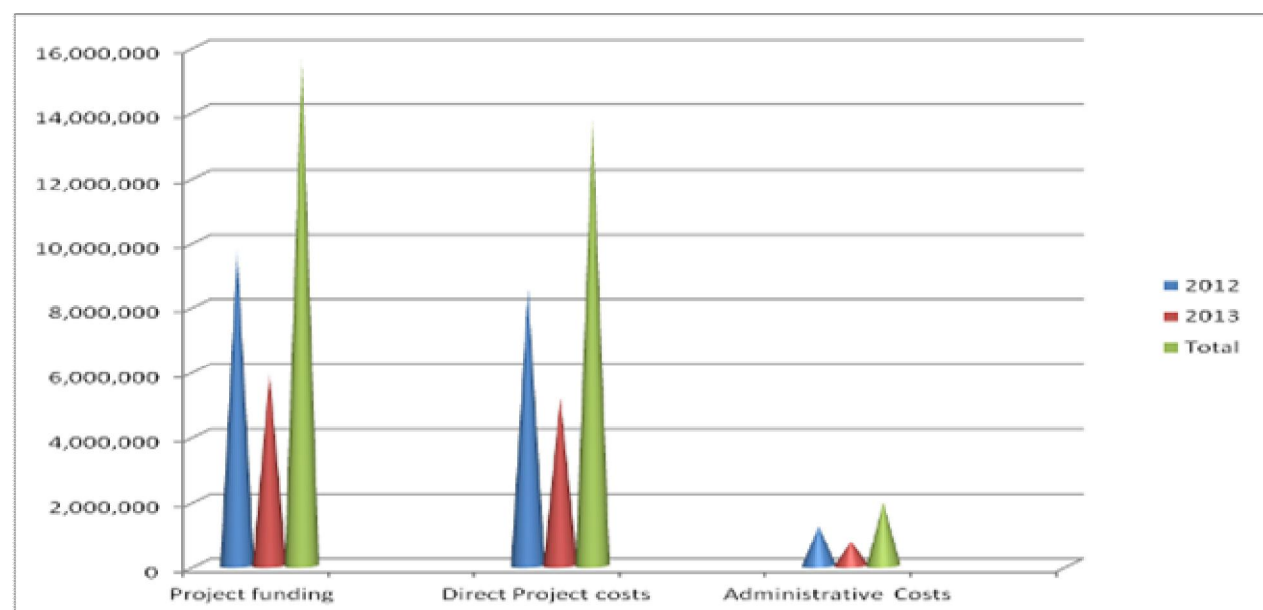


Figure 10: Project budget

3.0 PROJECT IMPACT AND SUSTAINABILITY

3.1 Project Impact Assessment

Key among the impacts are:-

a) Influencing Policy and Curriculum reform

The evaluation team observed that the project facilitated engagement with policy makers and curriculum developers for inclusion/infusion of ESD concepts in the school curriculum so that all going children will benefit from and appreciate nature and conservation. The programme has engaged the government agencies at country and regional (e.g. East African level) to establish and implement ESD agenda in school curricular. The project has engaged the East African Community through its different arms to include the EAC Secretariat in Arusha, Inter-University Council for East Africa (IUCEA) and the Lake Victoria Basin Commission in its policy advocacy initiatives; media to promote the Regional ESD Day; UNEP; UN Habitat; East African network for ESD practitioners. However, teacher inclusion of ESD into lesson plans remains a key challenge.

b) Promotion of ESD and whole school approach

The projects were centred around the school as the entry point and the whole school approach ensured that ESD interventions in the schools were replicated in the communities neighboring the schools with the involvement of parents, teachers, school committees and non teaching staff engaged in the greening initiatives, water and sanitation, energy conservation and income generating activities.

“.....ESD has made me obtain skills and knowledge on how to carry out different activities like agriculture. It has also made me an educator to the citizens. In that it has also taught me how to manage forests and control soil erosion. Moreover, it has made me observe high proper hygiene and that's why our school has grown to higher levels due to its performance and getting rid of diseases. It has also taught us ways of ploughing and planting new species of plants has been observed due to ESD programme. At home the saving energy tools are used in order to avoid deforestation. For all that ESD has made me grow up and become a good student in conserving the environment. I thank ESD for changing me”..... Colleta Chepchumba, class 8 (13 years old)

“... ESD has helped us to create good values in our clubs, schools and even in the community. It helps us in conserving the environment by planting trees and other different types of plants. It has made us come up with new ideas and we can even make decisions and what to do next, ESD also helps in school developments such as planting trees, growing crops”...Lavenda Achieng Awuor, Kibos Prison Primary

c) Promotion of ESD best practices

In general, Rwanda and Uganda exhibited the best packages of ESD practices, largely in schools. For Instance G S Mwendo and G S Katarara Schools in Rwanda, whose pictures of various ESD activities are presented here, exhibited good cases worth scaling up.



Well groomed compound, 'with over 120 mango trees' in G S Mwendo School, Rwanda



Well maintained banana plantation belonging to G S Katarara, Rwanda.



Well groomed, landscaped, lawned, compound with proper walkways, with students disciplined enough not to trespass to the grass despite lack of fence, 'filed with over 120 mango trees' in G S Mwendo School, Rwanda.



Well groomed, landscaped, lawned, talking compound with proper walkways, and trees in G S Mwendo School, Rwanda.



Hand washing facility in G S Katarara School, Rwanda



Umurava Youth Group, Rwanda

“.....As a registered youth group, we have been involved in environmental protection, making craft from water hyacinth, removing water hyacinth from Kagera River and make organic manure that we sell. In a month we make 700,000 franc. For me the group has changed my attitude towards life and nature. I have planted banana and cassava as income generating activity and to improve our food security and livelihood.

The work we do as Umurava Youth Group has challenged our parents to an extent that they have formed an association focused on kitchen gardening....” Cedric, Umurava Youth Group in Rwanda

The project has led to appreciation of greening school compounds, conservation messages, wood lots, kitchen garden, school orchards and gardens, hygiene and sanitation, water conservation and income generating activities. This has increased the understanding of environmental conservation, school labels (talking compound), instilling discipline in pupils in managing nature and using energy saving jikos.

d) Improved performance and child friendly school environment

In the project schools, there has been a holistic growth in the school in terms of infrastructure and students performance. In addition, the learners' discipline, parents support to schools and involvement of children in leadership has improved. The project has led to improved responsibility and discipline among children and thereby good results.

e) Improved child and youth participation in ESD

Child and youth participation was high, albeit with variations by country. The youth groups have been registered and have brought together young people to develop skills and also engage in income generating activities. For instance, the 'Together for Development' (TDI) youth group in Uganda which boldly partnered with the local area member of parliament in coffee seedling and poultry production, enabling it to even influence policy and community participation through its activities. Similarly, the two senior schools in Kasese, notably Mutanywana Secondary School energy project has a lot of senior student (youth) participation. In Mutanywana Secondary School, Mr Katusabe David together with a group of students are making stoves which are so far so marketable that they have so far made 26, fully functional in the community, with another order of 80 people who have applied to be made the same. The students mould bricks which are used for making the cook stoves. The challenge is that in wet season, the bricks take too long to dry. Currently, they are considering using an empty classroom to make the bricks.

Improved incomes for schools and communities

- i) Schools which mainstreamed food as its major ESD concept seem to have fared very well in terms of income. There are income activities in schools and community such as banana production, especially in Uganda and Rwanda;
- ii) Cassava production in Rwanda schools and Tanzania schools / communities
- iii) Poultry production by various groups; prospect exist in Uganda groups, but most of Tanzania ones lost 95% of their flock from diseases;
- iv) Goat production in Lieta Kabunde (Homabay, Kenya) and some schools in Uganda;
- v) Energy saving jikos project in Kasese
- vi) Solar and fuel saving Jiko energy projects in Kasese Secondary Schools
- vii) Biogas energy project in Kasese
- viii) Vegetable production in Nandi, Kenya
- ix) Tent, chair hire in TDI and other groups in Uganda
- x) Catering services in TDI and other groups in Uganda
- xi) Fish farming in Kajulu, Kisumu, Kenya

- xii) Bee keeping in Jasirika, Tanzania
- xiii) Nyegezi group in Mwanza, dealing in poultry farming.

Records indicate these communities in Kisumu and Homabay districts (Kenya) have the lowest per capita income, and no school feeding programme because of lack of food to use in the school. Groups dealing with energy saving catering and function services, jikos (Kasese, Uganda) are clearly on a sustainable way to wealth creation through the improved jikos programme. The idea, initiated through a few secondary schools, is clearly impacting the community with the teachers in charge acting as excellent champions and ambassadors inside and outside the schools. Other examples are poultry and catering (Rwentuuha, Kyenjojo, Uganda), bee keeping (Jasirika group, Tanzania), fish farming by the 'Plan and Act' group in Kajulu (Kisumu, Kenya), and Together for Development Initiative (TDI) group (Uganda) whose 1400 birds and a group managed coffee tree nursery were doing fairly well albeit it was too early to assess the cost effectiveness of their IGAs, as they had not started harvesting or selling their fish, birds or honey. For Rwentuuha, however, it was earning Ush 250,000 from its 300 plastic chair, and 4 tents and table it hires for ceremonies. The green projects so far are helping save the environment, due to reduced tree felling for firewood / charcoal. The tents have also helped reduce the need to cut trees and stems / leave of plants such as bananas to cater for the shade and function needs. A few schools in Uganda also experience losses arising from livestock trespassing and destroying their crops, due to lack of fences.

f) Promotion of ESD Pillars

The project has actively promoted the three pillars of ESD which includes the social aspects with communities organizing themselves into groups and for schools in clubs, economically with groups engaged in economic ventures such as farming, agro forestry and poultry farming. Finally environmental sustainability activities where groups practice greening, water conservation and tree planting were actively being implemented.

g) Improved capacity of youth groups

There has been some helpful training to the ESD youth groups. For the majority, however, this useful capacity, however, came only months before the evaluation, and for some groups, especially those challenged by income issues, it has largely been difficult to commit fully to the group activities. Another area of achievement is the increased youth capacity to engage in policy advocacy, which was a key outcome of this youth engagement. For instance, in Uganda a Youth group in Masaka engaged a private sector and the local county government – a tanning factory that was disposing of waste into the Nabajjuzzi Wetland which is a Ramsar site, and this pollution was successfully contained. On a larger scale, 24 youth groups in the 4 countries have been trained in 2012 and are successfully engaging in IGAs with better capacity.

In Uganda, youth networks e.g. Katonga Youth Development Association for upper and lower catchments have improved on marketing of their SMEs products. This is enhanced by the existence of a market survey / information system set initiated one group TDI



Egumba group, Tanzania: The remaining poultry after disease claimed more than 90% of the birds.

Examples of key youth groups

Together for Development Initiative (TDI)

In Uganda, the Together for Development Initiative (TDI) group is successfully managing an impressive 1400 birds, with only 100 mortalities after 3 months. They have one month to start having eggs sold and therefore some income. Besides, they are actively involved in the following: (i) new skills e.g. making pilau, cooking; (ii) behavior change; (iii) support the conservation of the environment; (iv) collaborative work together with the community; (v) exploring talent among young people and offering career guidance to pupils of Kapere Primary School; among others. This indicated significant variations in capacity and impact of capacity building to the TDI team, with variations across the various groups in the four countries. Through a link with the local Member of Parliament (MP), they are influencing policy.

Plan and Act, Kisumu, Kenya

A Kajulu youth group (Plan and Act) in Kisumu, Kenya, has fish farming project which seems to be doing fairly well. They have fair managerial capacity, but feel they need more to help them diversify their IGAs, and reduce the possible losses from one key IGA.

Bakyala Kwagalana / Cowo Kaswa

In Uganda, another group called Bakyala Kwagalana started in 1996, and started partnering with Nature Uganda in 2005. However, under its mentorship, a new partnering group, COWO Kaswa, came up in the 2012/13 period, and they received coffee seedlings with 5 members each getting 450 seedlings to plant in one acre. Whereas they have been trained on value addition, they were not trained on coffee production. However they were affected by drought, which killed a lot of the coffee plants, indicating adaptation to climate change is still a weak link. Cowo Kaswa deals in briquette, craft, bread making, and piggery. They were given Coffee, Blue gum (Eucalyptus) and avocado by Nature Uganda. They have also being given sewing machines, 3 water tanks. They have transferred the learning to 13 villages with functional units (CBOs).

Together for Development Initiative (TDI) group is successfully managing an impressive 1400 birds, with only 100 mortalities after 3 months. They have one month to start having eggs sold and therefore some income. This indicated significant variations in capacity and impact of capacity building to the various groups across the four countries.

Plan and Act in Kisumu, Kenya, has fish farming project which seems to be doing fairly well. They have fair managerial capacity, but feel they need more to help them diversify their IGAs, and reduce the possible losses from one key IGA.

h) Change in behavior among children, teacher and parents

The evaluation team observed that children in most of the schools targeted by the project have shown considerable change in their behaviour and this has translated in their improved academic performance. The access to information and training on ESD has influenced the attitude of these children positively to appreciate nature and conservation. The project has seen most children making decisions in their respective schools on administration issues and school governance such as prefect election. This is further elaborated elsewhere in this report under various subtopics covering the child participation in ESD. The TDI group is involved in behavior change advocacy among the members and in the community.

3.2 Unintended results of the project

The project has had ripple effect of ESD in the neighboring schools with some schools establishing their clubs modeled on the project schools. A number of institutions have been influenced by the beautification project of schools and some adopted as outreaches by the school. In Rwanda and Uganda, each project school had an outreach school which they were supporting and sharing ESD information and practices with. The outreach schools in Uganda are: Kakabara, Ngangi and Webicere in the upper catchments and Nsangi and Kyengera in the Kampala area. Also there is transfer of knowledge to neighboring communities such as Mugongo primary school and St Joseph's Maya. In the case of

Mwenge Primary School (Tanzania), they have an outreach school which they are supporting in their greening initiative and also a church neighboring the school has also adopted the beautification concept from the school.

3.3 Sustainability

Sustainability is the ability of the products and results of a programme or project to continue existing and discharging the intended benefits beyond the implementation stage. There is a strong indication that most of the project results will continue into the future due to the structures of ownership that were set at the initial stages of the three year project.

WWF has been relatively successful in creating a base for ESD philosophy at the country level by supporting CSOs to build networks, establish coalitions, undertake joint initiatives and engage with duty-bearers in both structured and informal ways. Sustainable results have been achieved by gaining commitment from duty-bearers in local government, authorities, schools, coordinating councils and legislative bodies to positive discipline, child inclusive/participatory practices and inclusive social protection systems.

The evaluation team observed that WWF's strategy of working in partnership with the Government and working with schools, capacity and environmental awareness were a step toward achieving sustainability. The project has empowered the children and communities to participate effectively on conservation, greening initiatives and food security issues in project areas. The ESD project has made significant achievements in influencing government curriculum development and supporting greening initiatives within schools and communities.

Communities expressed strong ownership of their respective projects and involved in the design, implementation and monitoring of the projects with the support of the partners. The partners facilitated networking, joint initiatives and the exchange of experiences and build common strategies to support sustainability and development within communities.

The sustainability of the project the ESD programme was built on WWF's expertise in conservation, lobbying and coordination with schools and communities and strong network with the civil society, and community-based organizations working on greening and food security.

The project sustainability is hinged on the capacity of teacher, communities and children built, skills developed through the project and the income generating activities being undertaken by the schools, groups and communities.

3.4 Programme challenges

In the four countries, for the sustainability of the project, the organization needs to put more effort in addressing the following, given the short time left to close the programme:

- a) Delay in funding and implementation: In all the four countries, most of the project activities for 2013 were implemented in the last quarter of the project due to long funding procedures. In some cases, support to organizations was being delivered during the evaluation period with little capacity building to the supported groups or schools. As such, the projects were rushed with a 3-4 months' loss resulting from delayed disbursement of funds.
- b) Advanced level of partner involvement with Policy and Curriculum review, with the implementing partners conducting the national workshops with curriculum centres. In all this, - WWF advanced them the funds. As a result, all the countries have been involved in strong advocacy for ESD inclusion in the curriculum, with some planned in the oncoming curriculum reviews such as Rwanda. Kenya Institute of Curriculum Development has made the most successful progress in curriculum re-orientation through a lot of the work funded through LVCEEP. ESD has a strong good will in Uganda among the various implementers such as teachers and education officers and inspectors. However, whereas a lot of work is ongoing, it is yet to be institutionalized at curriculum and policy level in most countries.
- c) Weak monitoring systems: In most of the project areas, the projects are far apart and continuous follow up was not possible with the level of funding.
- d) Weak Accountability systems: In all the areas, there were no contracts signed except in Rwanda where there is evidence of contracts to include the local district education office. In some cases it was difficult to ascertain what was really funded by the organizations.
- e) Inadequate training of partners and communities: During the period under review the partner organizations undertook little training for instance most 2012 communities have had at least two trainings. All partners have had annual trainings on financial management and reporting, Climate Change and Policy Advocacy and setting up of SMEs and Climate Change and on M & E. Though trainings have been done, there is need for more training to the youths and the partners.

4.0 PROGRAMME MANAGEMENT

4.1 Organization and Management of the Programme

a) WWF-ESARPO Paradigm Shift

WWF-ESARPO has moved from a project to programme approach where the focus is on addressing conservation issues at an eco-regional level. This means 'scaling up' to focus not only on the people dependent on a particular landscape for them to use available resources more sustainably, but also work to ensure that institutional structures and policies are in place to enable them to use these resources sustainably at present and in the future. The objective of the WWF-ESARPO policy programme is that at least five countries within Eastern Africa and two regional policy and institutional frameworks are supportive of sustainable development and equitable sharing of the benefits from natural resources. WWF-ESARPO supports trans-boundary initiatives for biodiversity protection and promotion of common management systems for shared ecosystems through promotion of dialogue and collaborative mechanisms. The coming into effect of the new East African Community Protocol on natural resource management augments conservation initiatives promoted by WWF-ESARPO in the region. Central to this new way of working is the need to understand how policies and institutions at the national, regional and international level constrain or enable our conservation programme, and thereafter to address them as part of the programme. The WWF-ESARPO policy programme represents a radical shift from a focus on direct influence on conservation and natural resource management related policies to a holistic approach that in addition, looks at the relevant macro-economic and sectoral policies that have or are likely to have an impact on the management of the environment. Such policy instruments include those relating to agriculture, trade, investment and Poverty Reduction Strategy Papers (PRSPs) among others. This it has done through policy work, advocacy and capacity building, in close collaboration with its partners through formal, informal and non-formal education systems

Formal and Non Formal Education

WWF ESARPO through the ESD EA Programme works with schools through the whole school approach that ensures the participation of the entire community in transforming teaching and learning both in the school curricula and extra curricula activities to promote learning for sustainability and transformation of entire communities. Under the non-formal component, it is working with communities to transform their villages into ESD Villages that involve community-based natural resource management guided by a framework that calls for a holistic approach, good governance, cooperation and partnership and promoting innovations towards sustainable development.

Networking and Partnerships

It is under this component that the ESD EA LVCEEP programme set up a Regional ESD Day. It is a platform for all stakeholders including government, private sector, civil society organizations, teaching and learning institutions, and the media to come together. This is a celebration to showcase its capacity

to build each other on best practices and innovations towards sustainable development. The first Regional ESD Day was celebrated in July 2010 in Kisumu (Kenya), and has become an annual event in the Lake Victoria Basin held on a rotational basis between the East African countries. The Lake Victoria Basin Commission an organ of the East African Community recognized this day as an official day in its calendar during the ESD Day celebrations held in Mwanza, Tanzania in July 2011. The 2013 ESD Day was marked under the theme “*Sustainable Livelihood Options for Climate Change Adaptation*”. This was in view of the various threats and risks that the region faces as a result of climate change. This calls for increased awareness and capacity building for all stakeholders and especially for the communities who are hard hit by the effects of climate change on the ground. WWF is also contributing by promoting capacity within the region and amongst stakeholders to ensure that all conservation efforts and socio-economic interventions are not watered down by the effects of climate change. WWF has been hosting this event since its inception in 2010 under the Lake Victoria Environmental Education Programme. It has successfully included the Lake Victoria Basin Commission as a strong partner and supporter of this annual regional event, and has continued to spread its advocacy agenda, with the successful advocacy to urge the Commission to host this event within its body as a strong arm of the East African Community to ensure its continued sustainability in the future. All the other countries have also made great advocacy strides towards entrenching the ESD into the curriculum, through they are at different stages of implementation. Meetings are periodically held between the project executants and WWF ESARPO Regional office to share and get updates on progress and challenges. From these all countries seem to have been encouraged, and all are on course to ensuring a full ESD implementation in schools as a government owned and led intervention to achieve sustainable development. Below is a profile of other national implementers of the ESD agenda by country.

b) Wildlife Clubs of Kenya

Wildlife Clubs of Kenya is a charitable non-governmental organization formed in 1968 by Kenyan Students with a focus on conservation education. The organization has been actively involved in conservation advocacy and action, conservation of natural resources and works towards combating climate change. The organization has strategic plan that acts as the roadmap for conservation action. The organization has structures and policies which have facilitated the LVCEEP implementation.

c) Nature Uganda

Nature Uganda (NU) is the branch of the East Africa Natural History Society (EANHS) in Uganda and was registered as a society in 1995 conservation organization in Uganda championing the protection of birds and their habitats. The goal of the organization is to contribute to biodiversity conservation and sustainable natural resource management at both national and international levels.

The organization operation is guided by a 5 year strategic plan which focuses on conservation development, research and monitoring and education and advocacy. The LVCEEP was a programme under education and advocacy which gave the project legitimacy and prioritized within the

organization. Nature Uganda has a financial, procurement and human resource manual that details policies and regulation in financial, procurement and human resource management.

The organization has well developed structures and systems for operation with adequate staff for the various programmes. LVCEEP has staff dedicated and adequate staff for the project with a Manager, Project Assistant and a Transport Officer. The organization has mechanism and systems for monitoring and reporting which is undertaken monthly, quarterly and annually.

d) WWF- Uganda

WWF Uganda Country Office was established in 2009 with a mission of conservation of nature by protecting natural areas and wild populations of plants and animals, including endangered species, promoting sustainable approaches to the use of renewable natural resources; and promoting more efficient use of resources and energy and the maximum reduction of pollution. The organization has well developed systems and structures that facilitated the implementation of Clean Energy Project in Kasese District.

e) Rwanda Environmental Management Authority

In Rwanda the LVCEEP was implemented by WWF staff but housed in Rwanda Environmental Management Authority more specifically the Environmental Education Programme. REMA is implementing the Green Schools Programme also funded by Sida through the government of Rwanda. This has helped to building synergies between LVCEEP and the government funded Green Schools Programme.

f) WWF Tanzania

WWF Tanzania Country office is a civil society organization working in the entire country with LVCEEP implemented in Mara region. The organization has well developed systems and structures for effective delivery of programmes such as the LVCEEP. The Organization was adequately involved in the initiation, development and implementation of LVCEEP falling under their mandate with adequate technical staff to supervise programme/project implementation. The projects were implemented in line with agreements between the organization and WWF ESARPO.

4.2 Organization Assessment matrix

The partners have systems and structures to deliver the project. They have governance, human resource and financial systems which have enabled the organizations to produce the results above. All the organizations are stable and have sound systems that provides a base for ESD practices and initiatives.

Table 21: Organization assessment matrix

Indicators	Wildlife Clubs of Kenya	Nature Uganda	WWF Tanzania	WWF Uganda	REMA
Governance and strategic leadership					
Human resource capacity, development and management					
Financial management and operations					
Development and management of ESD activities					
Accountability mechanism					
Branding of the project					

Key

	Excellent
	Good
	Fair
	Poor

4.3 Branding of ESD activities and partners

In terms of programme branding, whereas all have made some progress e.g. LVCEEP, WCK and Nature Uganda (as shown in the pictures below). As can be seen, Nature Uganda team has done an excellent work which others can copy in the coming phase..







4.3 Community participation and ownership

The community organizations such as the Youth groups and community groups implementing the ESD Initiatives are legally registered as CBOs for legitimacy and recognition by the government. The youth groups were at different levels of growth some at the nascent stages of development with each facing challenges of cohesion, consistency and commitment. The groups are owned, led and managed by the communities who elect their leadership. A good number of the groups such as COWO, were a result of old groups (Bakyala K) which had done successful implementation of the projects, and the new ones grew as outreach projects of the old. The schools have remained the centre of ESD initiatives of community engagements. The groups undertake different eco friendly activities some focus on organic farming, handcraft, fish farming, tree planting, removal of water hyacinth from the lake, agricultural market information, bee keeping, HIV and AIDS sensitization, environmental conservation and water catchment preservation among others as prioritized by the communities. The funding by LVCEEP guided by primary criteria of the proposed initiative having a link to conservation.

In order to deal with the challenges facing the youth groups there is need for intensive training on team development, environmental conservation, livestock diseases and management, value addition, climate change, environmental advocacy, business planning and linkages to financial institutions.

Case study 6: Role of fencing and community support in wealth creation in schools and communities: case study of Ligamba "A" Primary School, Tanzania:

To cope with livestock destroying school farms, Ligamba "A" Primary School in Bunda (Tanzania) have developed a very successful partnership model with parents and volunteer pupils who ensure no livestock enter the school compound. According to the head teacher, Mwalimu Tukiko Omoso, the local village administration (Uongozi wa Kijiji) banned livestock from coming to school, and anybody who breaks this pays a fine of Tsh 50000. This has led to the ESD success being registered in the school. On the evaluation day, as much as the pupils had gone home, three pupils caught the eyes of the consultants when they indicated they had come back to volunteer to ensure no livestock entered the school, as they would destroy the cassava, maize and trees which the school had planted. The children were: Joseph Peter, Mfungo Daniel, Michael Mahuri (all class 1), and Lumalanja Kamuli (class 7). The solution, however, lies in school fencing.

4.4 Programme Monitoring and Evaluation

The reporting was based on the activities conducted by the partners based on the objectives of the programme. Partners prepared and submitted activity reports describing, among other things, activities, achievements, constraints and future plans in narrative and financial report formats. The team observed that monitoring and follow up of the project activities was not effective due to the long distances to be covered by the project executants who sometimes is the only person implementing the project.

On a more positive note, WWF ESARPO undertook documentation of the whole school approach best practices, ESD Model Schools documentation into a report, Best Practice Income Generating Activities Manual , and the Pan African Youth Strategy on Learning for Sustainability. The relevant publications are available to the various stakeholders for guidance and use, especially in schools.

4.5 Programme Mainstreaming

a) Environmental Sustainability

The LVCEEP activities have not only effectively mainstreamed environmental issues and integrated the more wholesome sustainability as a whole which covers not only environmental, but also economic and societal empowerment. This has incorporated environmental, societal and economic sustainability aspects into the school and community through trainings, ESD clubs and ESD villages. The Programme has encouraged young people to be engaged in environmental conservation, eco friendly income generating activities and practicing sustainable agriculture. Most of the schools and youth groups are engaged in agro forestry, water catchment protection, awareness of medicinal plants and ecologically sound techniques. Tree nurseries are established supplying seedlings to members and the communities around at a cost. Communities and youth groups have also been mobilized to protect water points hence ensuring access to clean and safe water for household use and animals thereby reducing water borne diseases, inter community and human- animal conflicts. Through environmental management and conservation, farmers are practicing crop rotation; soil erosion is reduced leading to increased production. All groups it works with have mainstreamed environmental conservation, and all deal with green enterprises listed in the green enterprises booklet published by the WWF in 2012/13. At policy level curriculum analysis has been done for all the countries, and its awaiting moving to the next level of policy. Thorough advocacy, it has been possible to have the regional ESD day in their calendars.

b) Gender Mainstreaming

Through the programme, WWF ESARPO prioritized gender inclusion in the project activities and at community levels where both men and women were represented in the youth groups and schools both girls and boys participated equally in the ESD activities. In some groups women assumed the leadership and decision making role in the organizations. It was observed that groups where women were actively involved there were better results. However, most of the groups were led by young men. Women were more into skills development and income generation such as tailoring trainings, bead making and basketry. Most groups have both membership and officials with a balanced gender within the 1:2 ratios.

c) HIV/AIDS

The programme health component included creating awareness on HIV /AIDS within the school and the community. There groups that partnered with the government to create awareness on HIV/AIDS while in schools the messages on HIV/ AIDS were inscribed on stones and trees. In Tanzania, a Mwanza based group called Nyegezo youth was very prominent in HIV / AIDS education to schools and youths, to the extent it was being used by various organizations. There has also been mainstreaming of HIV / AIDs into WWF trainings with schools, youth groups and ESD villages.

d) Human Rights and Good Governance

Through the programme has resulted in improved human rights awareness in the communities and has created a sense of responsibility among children and young people in the groups. This has communities demand for conservation of forest, reduced cases of human rights abuses and violation, improved accountability and conservation of natural resources in the communities.

The community's initiatives are registered as community based organization for legitimacy and recognition by the government. The CBO's brings together various groups with different interests and these become the centre of community engagements. The groups are owned, led and managed by the communities who elect their leadership.

In general, the human rights dimension of the ESD featured most prominently in schools, and teachers' respect of child rights or lack of it. Schools where child rights were respected, with their views being taken into account at home and in school had more confident child.

In most schools, there was collective management of the ESD project. However, in some, there was a clear one man show with no school ownership, rendering it unsustainable in the absence of the ESD teacher or head teacher. This is an area which needs urgent attention.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

There are numerous specific conclusions from the evaluation. These include:

The project has had very major impacts on school aesthetics as well as learners' knowledge about and the environment, with most of the ESD village pillars very clearly achieved at ESD village household level;

- a) Empowerment of children to ensure effective implementation and ownership of child participation is necessary for project sustainability. The project work with existing government and networks ensured ownership and sustainability.
- b) Whereas most ESD principles have been understood, embraced and practiced by teachers and pupils, participatory learning, teaching, learner centredness and incorporation of the ESD agenda in curriculum has been the weakest point in all the institutions across the entire region.
- c) The environmental messages in IEC materials and in talking compounds reinforced learning and responsibility of the children in school and are effective in delivering information to the children.
- d) Whereas the ESD implementation in various countries took the same approach, they were at different stages, with some implementing the ESD village alongside the school and group interventions (Kenya and Uganda), while others took the school and CBO approach, with the ESD village coming much later. This makes it difficult to make a uniform comparison and determine straight away who is likely to have greater wins in programme outcomes and impacts delivery. Tanzania and Rwanda has no properly established ESD village (those identified are still at infancy and yet to go through the full process to be full fledged ESD villages), rendering the flow of ESD idea, concept and philosophy a bit slow, and it seems to be impacting negatively on its effectiveness.
- e) Youths can be a real engine for agricultural development, food security and sustainable agriculture if the general community attitude towards agriculture is positive. This is exemplified by the comparison between Uganda and Kenya, whereby the former has succeeded because of positive attitude and elaborate agricultural practice, higher level of food security, better income, a higher percentage of schools having lunch programme and healthy school children, whereas in the latter case, attitude towards agriculture was not only negative but also there was more food insecurity, less income, lower prevalence of lunch programmes in schools, and less healthier children.

- f) There has been a lot of successful advocacy work on ESD by the civil society, to the extent that ESD is now accepted as a means to enhance education by all the participating countries.
- g) ESD Policy engagement and framework has been prioritized in this phase of implementation, and at various levels. This has led to a lot of success in policy work at National, Regional and Pan African level. This needs to be pushed to the logical end across all countries, culminating in a formal ESD Regional Policy framework that is binding to all countries.
- h) Delays in disbursing funds have been a key barrier to achievement of very noble ESD objectives by all implementing partners such as schools and CBOs. This has significantly reduced the implementation period by at least 1/3 (four months per year), and has in turn impacted negatively on achievements. As such the implementation period has been unrealistically short.
- i) On the whole the programme has had reasonable level of success in holistic approach and participation, governance, education and learning, cooperation and partnership, management and innovations.

5.2 Lessons learnt

There are numerous lessons learnt from the evaluation. These lessons include:

- a) Persistent and consistent advocacy work on a vital subject as ESD can help bring stakeholders from many countries and professional orientations together for a common cause of policy engagement;
- b) The exchange visits, ESD Day Celebrations and Essays have great impact on pupils and teachers and act as motivator and stimulates commitments to the principles of ESD.
- c) The income generating activities in the schools and communities provides the necessary income to support some school and households in the ESD villages. This has also been the key source of project sustainability in the schools and groups where they exist.
- d) Using uniform approaches in all intervention sites, e.g. both the ESD villages alongside ESD schools help achieve positive results much more effectively with maximum influence of ESD concept on the entire community / society being felt.
- e) ESD Initiatives or implementation approaches which emphasize income and food security, and integrate lunch programme in schools seem to be most effective in promoting the ESD agenda.
- f) An agenda can be most successful if the government owns it up; this has been demonstrated by Uganda and Rwanda where the government education officers / curriculum developers have taken up ESD as a national agenda at policy and curriculum level. However, Kenya exemplifies a contrast as follows: the general ESD implementation in schools and communities is not as

advanced as in the other countries, but on the other hand, Kenya's curriculum developers through LVCEEP funding have developed an ESD Orientation Manual for Teachers and Curriculum Developers. It's an irony because Kenya is actually leading on this with support from LVCEEP. LVCEEP also supported the validation of the draft KIE ESD Policy in 2012.

- g) Overemphasis on academic achievement tends to suppress the potential of any new idea / project enhancing the overall value of education, as has been the case with Kenya;
- h) Youth groups are a key engine for development in society, especially if they focus on a major energy sapping but income generating activity with all members playing specific roles; and get a backing and support from key leaders and policy makers, as is the case with TDI.
- i) Youth CBOs can be sustainable if they are directly involved in policy making, as has been the case with the youth policy engagement in Nairobi by the WWF and partners in the 2012 / 13 period.
- j) Untimely disbursement of resources can significantly impact on the potential gains of a project due to reduced implementation time.

5.3 Recommendations

- In order for the programme to sustain the gains made in ESD, the partners should consider engaging more with the current schools and groups through trainings, exposure and supporting their ESD initiatives, with a focus on identifying exactly what ESD aspect need to be included in the curriculum by subject.
- Work on a coordinated approach to programming to ensure that funding and implementation delays are reduced. This is especially applicable to reduce rushed implementation of programmes from a planned 12 months reduced to 8 months, which is a key reason many implementing organizations have not made much progress, with some still at infancy.
- Build capacity of the core teams in the various project countries to monitor the project activities in their areas, starting with obvious ones such as fencing, landscaping and school farm.
- Involve the relevant organs such as school inspectors and quality assurance offices in the implementation of the ESD project in schools for sustainability for close monitoring and sustainability. This can help teachers understand ESD as a vital component of curriculum and quality service which they need to own. This will reduce the pressure on teachers to over focus on academic achievement as opposed to the life skill approach which ESD encourages
- Work closely with head teacher to create sustained interest in ESD through continuous training, exposure and exchange programmes.
- The organization should continue prioritizing policy and curriculum engagements and advocacy to ensure that ESD is mainstreamed in the school curriculum.

- It's vital to use food security as a key theme in ESD so that an immediate gain is seen by all stakeholders. From this, other conservation and livelihood components such as school feeding programme easily fit in, as has been demonstrated by Rwanda and Uganda.
- There is need to produce future publications in English, Kiswahili, French / Kinyarwanda to enable all stakeholders get a uniform concept, but still interpret it in their own context.
- There is need to assess the reasons for reduced enrolment in most schools with a view to mainstreaming it as a key ESD indicator for regular monitoring.
- Identify the key challenges faced by each country / district and mainstream this in the next phase. For instance mainstream climate change issues in Tanzania because it has been affected most by climate change.
- There is need to have a full extension to enable the programme increase the number of ESD villages which were only 9 so far, and even push forward full implementation in Rwanda and Tanzania where the concept was at infancy at the time of evaluation, with only the ESD village sites identified with more steps still planned to be followed to make them qualify as full ESD villages.
- Whereas there is already advanced efforts for achievement, a Regional ESD Policy is urgently required in order to harmonise the mainstreaming of the ESD agenda across the whole region.

APPENDICES

APPENDIX 1: GREENING HOME BY SCHOOL CHILDREN

	overall		Uganda		Kenya	
	low	high	Low	high	low	High
I participate actively in school environmental/ greening activities						
a) Planted a fruit tree	57.3	90.8	80.6	89.3	47.2	91.9
b) Take care of fruit trees	48.5	87.7	64.5	87	41.7	88.2
c) Planted a non-fruit tree	46.6	92.3	54.8	85	43.1	96.9
d) Take care of non-fruit trees	45.6	92.2	51.6	84.2	43.1	96.9
e) Planted vegetables	59.2	92.4	58.1	85.7	59.7	95.6
f) Take care of vegetables	52.4	88.5	64.5	87	47.2	89.5
g) Planted grass / lawn	38.8	78.4	48.4	83.3	34.7	75.8
h) Take care of grass / lawn	29.1	68.2	35.5	78.6	26.4	63.3
i) Done other landscaping	29.1	63.8	45.2	82.4	22.2	53.3
j) Takes care of a landscape	32	70.2	41.9	81.2	27.8	64.5
k) Planted flowers	53.4	90.2	71	88	45.8	91.7
l) Takes care of flowers	46.6	85.7	58.1	85.7	41.7	85.7
m) Prepared seedling	34	68.6	51.6	84.2	26.4	59.4
n) Built energy saving jikos	26.1	49.1	67.7	87.5	8.3	19.4
Use energy saving jikos for school meals	32	58.9	64.5	87	18.1	39.4
Mean	42	78.5	57.2	85.1	35.6	74.1

APPENDIX 2: GREENING SCHOOL

	overall		Uganda		Kenya	
	low	high	Low	high	low	High
i. I participate actively in school environmental/ greening activities	low	high	Low	high	low	High
ii. Planted a fruit tree	37.9	59.1	48.4	62.5	33.3	57.1
iii. Take care of fruit trees	30.1	56.4	41.9	59.1	25	54.5
iv. Planted a non-fruit tree	28.2	56.9	32.2	52.6	26.4	59.4
v. Take care of non-fruit trees	23.3	50	29	50	20.8	50
vi. Planted vegetables	31.1	58.2	41.9	59.1	26.4	57.6
vii. Take care of vegetables	25.2	54.2	35.5	50	20.8	53.6
viii. Planted grass / lawn	16.5	42.5	38.7	63.2	6.9	23.8
ix. Take care of grass / lawn	19.4	43.5	45.2	60.9	8.3	26.1
x. Done other landscaping	18.4	43.2	32.3	52.6	12.5	36
xi. Takes care of a landscape	17.5	41.9	29	50	12.5	36
xii. Planted flowers	28.2	54.7	32.2	52.6	26.4	55.9
xiii. Takes care of flowers	21.4	47.8	32.3	52.6	16.7	44.4
xiv. Prepared seedling	18.4	42.2	41.9	59.1	8.3	26.1
xv. Pick solid waste without reminder	12.6	32.5	25.8	47.1	6.9	21.7
xvi. Sort wastes in school	8.7	22	19.4	31.6	4.2	13.6
xvii. Ensure other pupils don't dump wastes	15.5	38.1	32.3	52.6	8.3	26.1
xviii. Built energy saving jikos	17.5	40.9	51.6	64	2.8	10.5
xix. Use energy saving jikos for school meals	14.6	36.6	45.2	60.9	1.4	5.6
xx. Mean	21.4	45.6	36.4	54.4	14.9	36.6

Appendix 3: PARTNER REVIEW TOOL

ORGANIZATION :			
ORGANIZATIONAL MANDATE:			
	Yes	No	Comment s/Observations
1. GOVERNANCE AND STRATEGIC LEADERSHIP			
1.1. The organization has a structure and an operational strategic plan			
1.2. The organization roles and responsibilities are clearly defined and documented.			
1.3. Staffs in the Organization have good understanding of their roles and responsibilities.			

1.4.	The Organization has effective management mechanisms:			
(a)	Organizational meetings are held regularly			
(b)	Decisions of the organization and its organs are clearly documented.			
(c)	Work plans are developed and are followed.			
(d)	Organizational reports are produced and submitted to relevant authorities in a timely manner.			
1.5.	The mandate, vision, and mission of the Organization is clear and known to staff.			
1.6.	The Organization has developed core values and code of conduct to guide staff in their work, day to day operations and their internal and external relationships.			
1.7.	The Organization engages in policy dialogue and policy advocacy			
1.8.	The Organization has developed a strategic plan and it is effectively used to guide its operations.			
1.9.	There is a clear and regular process for review of the strategic plan			
1.10.	Three key leadership and management challenges, constraints or limitations that hinder the Organization from effective service delivery:			
2. HUMAN RESOURCE CAPACITY, MANAGEMENT AND DEVELOPMENT				
2.1	The Organization has developed a formal staff establishment that guides the number of staff it requires for effective service delivery.			
2.2	The Organization has the required personnel to effectively support its operations:			
(a)	Technical/Professional Staff			
(b)	Administrative staff			
(c)	Other support staff			
2.3	The organization follows established policies and laid down procedures in management of the following human resource processes:			
(a)	Staff recruitment			
(b)	Staff remuneration (salaries, allowances, stipends etc)			
(c)	Staff development			
(d)	Staff performance			
(e)	Staff welfare			
(f)	Grievance handling			
(g)	Disciplinary procedures			
2.4	Staff have basic minimum requirements for the respective positions (Academic, professional, and experience).			
2.5	Three key human resource issues that should be addressed for the Organization to enhance its performance and service delivery:			
3. FINANCIAL MANAGEMENT AND OPERATIONS				
3.1	There are documented (clearly written) financial policies and procedures.			
3.2	The Organization has an Accounting System that adequately supports recording of financial transactions.			
3.3	Financial reports are prepared using a consistent format.			
3.4	Financial reports are reviewed by relevant authorities and issues that come up are followed through and resolved.			
3.5	There is a process of independent financial audit.			
3.6	The Organization has instituted a process of budgeting, financial projections and reviews.			
3.7	The Organization maintains bank accounts in line with government requirements and donor agreements where applicable.			
3.8	There are adequate mechanisms that ensure accountability on financial transactions.			
3.9	There are adequate number of skilled staff in the Finance Unit of the Organization.			
3.10	The Organization has documented systems of internal controls, and approval of spending and disbursements.			

3.11	Three key issues that should be addressed to make financial management more effective and efficient:			
4. DEVELOPMENT AND MANAGEMENT OF ESD PROGRAMME				
4.1	The Organization was adequately involved in the initiation, development, and implementation of programmes/projects that fall under their mandate.			
4.2	The Organization has adequate technical staff to supervise programme/project implementation.			
4.3	Project monitoring and result management mechanisms in place.			
4.4	Programmes/projects are implemented in line with agreements between the organization and funding agencies.			
4.5	There are clear linkages on programme/project implementation at school, community and ESD Villages			
4.6	Three key issues that should be addressed to make programme/project management more effective and efficient:			
5. ACCOUNTABILITY MECHANISMS				
5.1	Systems exist for periodic evaluation of the effectiveness and efficiency of the services provided by the Organization.			
5.2	There are clear agreements/MOUs with other agencies that work in collaboration with the Organization and these are effectively followed.			
5.3	The organization has developed effective systems for monitoring and evaluation of its programmes and activities with clear monitoring indicators.			
5.4	The Organization has developed mechanisms for routine follow up of programme issues, assessments, evaluations and use these for critical reflection and drawing out key lessons for better project design and implementation.			
5.5	Key stakeholders including target communities are involved in setting priorities in areas of interventions.			
5.6	Mechanisms exist for accountability to stakeholders.			
5.7	Three key challenges, constraints or limitations that hinder the Organization from promoting good accountability practices:			
6. INFRASTRUCTURE, FACILITIES AND EQUIPMENT				
6.1	The Organization has basic infrastructure, facilities, and equipment to support its operations:			
(a)	Office space			
(b)	Chairs and desks			
(c)	Computers			
(d)	Transport			
(e)	Telecommunication (phones, faxes, e-mail etc)			
(f)	Others (please itemise)			
6.2	Three key challenges, constraints or limitations faced by the Organization on infrastructure, facilities, and equipment.			
GENERAL OBSERVATIONS				

APPENDIX 4: FGD GUIDE AND QUESTIONNAIRE FOR PUPILS

Individual questionnaire for pupils: As a pupil, I.....

	ESD has	1. Yes 2. No	Comment, e.g. state number
1.	ESD has empowered me through a) New knowledge b) New skills		

	c) New attitudes d) New motivation e) New values f) New passion and energy		
2.	I participate actively in class activities		
3.	I participate actively in school environmental/ greening activities a) Planted a fruit tree b) Take care of fruit trees c) Planted a non-fruit tree d) Take care of non-fruit trees e) Planted vegetables f) Take care of vegetables g) Planted grass / lawn h) Take care of grass / lawn i) Done other landscaping j) Takes care of a landscape k) Planted flowers l) Takes care of flowers m) Prepared seedling n) Pick solid waste without reminder o) Sort wastes in school p) Ensure other pupils don't dump wastes q) Built energy saving jikos r) Use energy saving jikos for school meals		
4.	I participate actively in home environmental/ greening activities a) Planted a fruit tree b) Take care of fruit trees c) Planted a non-fruit tree d) Take care of non-fruit trees e) Planted vegetables f) Take care of vegetables g) Planted grass / lawn h) Take care of grass / lawn i) Done other landscaping j) Takes care of a landscape k) Planted flowers l) Takes care of flowers m) Prepared seedling n) Built energy saving jikos o) Use energy saving jikos		
5.	I contribute towards decision making in school		
6.	I have transferred a greening project in the school to home		
7.	I participate in school decision making		
8.	I wash hands (without reminder) a a) After visiting a toilet b) Before eating c) Before feeding a child		
9.	School has clean water for hand washing		
10.	School has enough water for hand washing		
11.	School has a hand washing facility (s)		
12.	I wash hands with soap and water (without reminder) a) After visiting a toilet b) Before eating c) Before feeding a child		
13.	I a) Feel my decisions in school are respected b) Feel my decision at home are respected c) Hold discussions freely with my fellow learners d) Hold discussions freely with my teachers		

	e) Ask questions in class without fear of intimidation f) Ask questions out of class without being intimidated g) Feel at home when in presence of my teachers h) Feel relaxed when discussing greening issues with my teachers i) Feel relaxed when discussing greening issues with my parents		
14.	I have participated in ESD a) Essays b) Artwork c) ESD ambassador to community d) ESD ambassador to school e) Won ESD award on ESD day After the ESD experience I feel a) High level of self esteem b) Better placed with life skills c) I can be a better educator d) Self motivated and self directed e) Confident and versatile f) Permanently transformed		
15.	School has a lunch feeding programme		
16.	School lunch feeding programme benefits from my effort in school garden		
17.	Due to school feeding programme, I am ever absent from school		

FGD GUIDE FOR PUPILS:

1. Your understanding of ESD
2. Your individual and collective participation in ESD
3. Your success in ESD activities
4. What you consider most successful ESD activity by your (i) household (ii) club.....(iii) school
5. Your Participation in clubs Name.....Total.....male.....Female

APPENDIX 5: FGD GUIDE: YOUTH AND OTHER GROUPS (CBOS)

Name.....VillageDistrict.....CountycountryMembership: Total.....males...females.....

1. When was formed
 2. Key group activities
 3. Key group IGA and its history and current income levels per month / year
 4. Key achievements
 3. Key group contribution to ESD agenda -
 4. How has the group / CBO improved the livelihood of members?
 5. How has the group integrated ESD into its – may not be appropriate in regard to programme design – ESD is a strategy and not a goal for the programme
 - (i) Household benefits?
 - (ii) Community benefits
 6. How does the group engage the following in ESD activities:
 - a) Community
 - b. Teachers
 - c. Pupils
 - d. Parents
 - e. School
 - f. Ministry of education
 - g. Other stakeholder
- What would you consider the most outstanding ESD activity in
- i. The group?
 - li. The community?
 - lii. The neighboring school?
- d) NB: The idea of how the ESD EA LV CEEP Programme has improved the group livelihoods, contributed to addressing their socio-economic concerns and also contributed to conservation of their environment would be the key areas of interest- i.e., how has the programme impacted on their lives?.

APPENDIX 6: MID TERM EVALUATION OF ESD PROJECT; PROJECT STAFF INTERVIEW GUIDE

a) Programme relevance and design assessment

1. What were the main problems that existed by the time of this project formulation?
2. How did your project try to address them?
3. How were the beneficiaries identified and involved?
4. What component of your project has been easy to implement. Why do you think it was so?
5. What component has been difficult to implement? Why do you think it was so?
6. What changes have you observed in the community following the implementation of this project?

What components of your project had the highest level of contribution to these changes? Why?

7. Which ones had the least contribution? Why?
8. To what extent and how the project has achieved its objectives
9. How have you engaged at national and international levels in ESD.

b) Assessment of the Programme/ strategy

1. What were the strategies used in implementing the project and comment on their effectiveness and appropriateness
Any unintended results attributed to the project? Explain

Growing models villages surrounding schools. The project intervention didn't engage these communities directly.

2. What challenges existed within this project or experienced during the implementation
3. What do you attribute the challenges to?
4. What suggestions can you give to counter these challenges? (probe for each specific challenge)
3. Conduct a needs assessment especially in regards to engaging the youth in innovative sustainable energy solutions in Kasese.
5. What failures have you experienced in implementing the project?
6. What do you attribute the failures to?

c) Efficiency

- a) Assess whether the outcomes of the project match the time and human resources utilized.

Outcomes out much the time and human resources.

- b) Do you think the cost of the project activities are justified by its achieved outputs as laid out in the proposals so far
- c) Do you think the results/outcomes of the project match the time and human resources utilized?
- d) Do the results justify the financial outlay of the project?
- e) What proportion of funding is allocated to programme, operations and management?

d) Project Management Assessment

1. Comment on staffing, facilities and facilitation for the project
2. What factors have contributed to the success / failure of the programme.
3. What Partners/ stakeholders were involved in the project and what was their role?
Give your recommendation for the future programming.

e) Sustainability

1. What is your view of the sustainability of the benefits of this project in the community?
2. What lessons did you learn from this project?
3. Describe any unforeseen impacts (whether positive or negative)
4. Discuss the impact on the children, teachers, parents and communities
5. What would you do differently GOING FORWARD? Why?

f) Recommendations

What are your recommendations on:

- a) ESD Villages b. School Programmes c. Organizational capacity Building

APPENDIX 7: HOUSEHOLD QUESTIONNAIRE

The questions can also be answered by the head of the household or another responsible family member.

1. Country 2. County 3. District 4. Location 5. Village
6. Name of ESD village or ESD School or Outreach school 7. Rural or urban

SECTION 1: HOUSEHOLD CHARACTERISTICS

a: Respondent / Head of household characteristics

	GENDER	AGE IN YEARS	EDUCATION Highest class completed	EMPLOYMENT/ OCCUPATION	MEMBER OF CBO	Has undergone ESD training	Child has brought ESD concept at home	Practice ESD at home
						1. Yes 2. no		1. Yes 2. No
(RESPONDENT)	100	101	102	103	104	105	106	107
HH HEAD	108	109	110	111	112	113	114	115

b. Household characteristics

	NUMBER OF members			HH has a MEMBER OF CBO	Lives with OVC	HH has a MEMBER OF MFI	HH member has gone on ESD tour	Child has brought ESD concept at home	HH has ESD project at home	Participate in school governance(plan, implement, monitor and evaluate school projects)	Feel empowered by ESD
	MALE	FEMALE	Total	1. Yes 2.	1. Yes	1. Yes 2.	1. Yes 2.	1. Yes 2.	1. Yes 2.	1. Yes 2. no	1. Yes 2. no

				no	2. no	no	no	no	no		
ALL HH	200	201	202	203	204	205	206	207	208	209	210

c. HH Demographics

Part A Demographics																				
0-under 5 years						3-6 years			7-14 years			14-20 years			21-24years			25-35		
boys	girls	In school	boys	girls	In school	boys	girls	In school	boys	girls	In school	boys	girls	In college	male	fem	With profession	Employed / working		
300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318		

SECTION 2. HOUSEHOLD RESILIENCE AND FOOD SECURITY

	In the past year,	1. Y; 2. no
1)	401 Did your family reduce the size and / or the number of meals eaten in a day, in order to have enough food to eat?	
2)	402 Did your family have any days without eating anything all day, because of a lack of food?	
3)	403 Did your family change the family diet to cheaper or less-preferred foods, in order to have enough food to eat? Give appropriate examples if needed.	
4)	404 Did your family eat wild food (e.g. berries, fruits, roots, leaves etc.) more frequently than usual, in order to have enough food to eat?	
5)	405 Did your family resort to utilization of wild resources more frequently than usual (e.g. burning charcoal) in order to be able buy enough food to eat?	
6)	406 Did your family resort to mechanisms that could be life-threatening (e.g. foraging in land mined areas, involvement in unauthorized activities, etc.) in order to have enough food to eat?	
7)	407 Did your family resort to longer-than-normal seasonal migration in order to find pasture for animals, in order that animals and you had enough food to eat?	
8)	408 Did one or more of your family care-givers work longer hours or take on another job in order that the family had enough food to eat?	
9)	409 Did one or more children from your family discontinue school in order save money or work to bring in additional income, so that you had enough food to eat?	
10)	410 Did one or more of your family go to another neighborhood, village, town or city to find work, in order that the family had enough food to eat?	
11)	411 Household has a drought resistant crop in farm (e.g. sorghum, millet, cassava)	
12)	412 Household uses modern farming methods	
13)	413 A household member has had malnutrition in the last 1 year	
14)	414 Household used to experience hunger five years ago	
15)	415 Household experiences hunger now	

SECTION 3: time taken to reach to and fro water point.

	507 Dry season	508 Wet season
1. 0 – less than 30 minutes walk from the house / yard / plot.		
2. 30 – 60 minutes' walk from the house / yard / plot.		
3. More than 60 minutes walk from the house / yard / plot.		
4. Water is piped into the house / yard / plot.		
5. Don't know / no answer.		

WATER ACCESS AND SUPPLY

Water supply use DRY SEASON	501: Who constructed DRY SEASON	502: How long the source has water in a year? DRY SEASON	503 Managem nt DRY SEASON	504 Who constructed WET SEASON	505 How long the source has water in a year? WET SEASON	506 Management WET SEASON
500 What is the ONE main source of water for members of your household during the DRY SEASON ?	1.Self/Household 2. Government 3. Community 4.ESD / ESD partner 5. Multiple sponsors 6. Natural/ N/A 7. Others (Specify) 8. Don't know	1.< 6 months 2. 6months to < 1 year 3. Throughout the year 4. Don't know	1. Household 2. Committee 3. Elders 4. None 5. don't know 6.N/A	1.Self/Household 2. Government 3. Community 4.ESD 5. Multiple sponsors 6. Natural/ N/A 7. Others (Specify) 8. Don't know	1.< 6 months 2. 6months to < 1 year 3. Throughou t the year 4. Don't know	1. Household 2. Committee 3. Elders 4. None 5. don't know 6.N/A
1. Piped into House.						
2. Piped into yard / plot/ compound.						
3. Public tap.						
4. Open well in compound / yard / plot.						
5. Open public well.						
6. Protected well in compound / yard / plot.						
7. Protected public well.						
8. Unprotected spring / river / stream.						
9. Pond / water pan/ Lake / dam.						
10. Rainwater (With permanent roof catchment facility including tank)						
11. Tanker truck.						
12. Bottled water.						
13. Protected spring						
14. Borehole						
15. Don't know / no answer.						
16. Other (Specify)						

During the **DRY AND WET** seasons, how long does it take to walk to the water source stated above, get water & come back?

509 How much water has been collected in the past day for your household use (cooking, drinking, bathing, washing and cleaning)? Write the estimated number of litres, here.....litres

When was your main household water source established?

	1.Before 2011	2.After 2011	3.Natural
510 Dry season source			
511 Wet season source			

512 Is the water source for your household use the same for livestock use? 1. Yes 2. No 3. N/A

513 What is the nature of your house? (Observe) 1. Permanent (with Corrugated iron roof and permanent wall) 2. Semi (Corrugated iron roof and mud wall) 3. Semi (thatch roof and permanent wall) 4. Smeared wall and thatch roof 5.

Otherspecify).....

514 Is there any water source where you pay to get water? 1. Yes [] 2. No []

515 If yes, do you pay per 20 litre jerrican or per month? 1. 20-litre jerrican 2. Per month 3. Both 4. Per week

516 If per 20-litre jerrican, how much for a 20 litre jerrican? State amount

517 If per month, how much? State amount

518 How do you rate this water charge? 1. Affordable [] 2. Unaffordable [] 3.N/A

519 Do you consider the water you have as sufficient for your household? 1. Yes [] 2.No [] 3. Don't know[]

520 What is the Distance (in kilometers) your household takes to the water source?

1. Less than 1 km 2. 1-Less than 2km; 3. 2-Less than 3 km; 4. 3- Less than 5 km. 4. More than 5km.

SECTION 4: HYGIENE AND SANITATION

	State whether or not your:	1. Yes	2. No
600	Household has a dish drying rack		
601	Household has a pit for dumping garbage		

LATRINE AND SANITATION ACCESS AND USE

602 Type of latrine	603 Own Latrine?	604 Used by?	605 Who built?	606 How far from nearest water source?	State (Observe state of latrine)				611 Who cleans?
	1. Yes 2. No (use?)	1. all family members 2. Adults only 3. male only 4. female only 5. visitors 6. not in use 7. Other (Specify).....	1. Self/ HH 2. WWF/ LVCEEP 3. Other NGO 4. Supported by WWF/ LVCEEP 5. Government 6. CBO 7. Other (specfy	1. < 10m 2. 10-20m 3. > 20m	607 Cleaned?	608 Blockages?	609 Flies?	610 Odour?	1. Male 2. Female 3. Anybody 4. Children 5. House-help 6. Other (specify).....
1. Traditional									
2. VIP									
3. Flush									
4. Bush									
5. Neighbour's									
6. Other (specify)									

612 If facility is not used by all family members, Why? 1. Culture (Age difference) 2. Culture (Gender differences) 3. Fear
4. For inspection/ beauty 5. N/A 6. Other (Specify).....

613 Do you have a leaky tin/ hand washing facility next to the latrine? (Observe presence and availability of water in it) 1. Yes []

2. No [] 3. N/A []

614 If No, Why? 1. No water 2. Stolen / Vandalized by neighbors 3. Stolen / Vandalised by children 4. Vandalised by livestock 5. Vandalised by wildlife 6. No latrine 7. Others (Specify)

Do you wash your hands.....	1. Yes	2. No	3. Occasionally
615 Do you wash your hands after visiting latrine ?			
616 Do you wash your hands before feeding a child ?			
617 Do you wash your hands before eating ?			

618 If yes in any of the above, how do you wash your hands? 1. With warm water only [] 2. With cold water only []
3. With warm water and soap [] 4. With cold water and soap [] 5. With water and ash / sand / leaves [] 6. Other (specify).....

619 If occasionally, why? 1. Lack of water [] 2. Lack of time/in a hurry []

3. No hand washing facility (leaky tins) [] 4. N/A 5. Others (specify).....

620 Do you consider the water you have as of good quality for drinking by your household? 1. Yes [] 2. No [] 3. Don't know

621 Do you treat drinking water? 1. Yes [] 2. No [] 3. Sometimes/ At times [] (If NO, go to)

622 If YES, How? 1. Boiling [] 2. Adding chlorine / PURR, water guard [] 3. Traditional leaves []

4. Alum stones [] 5. Settling / filtering [] 6. Ash [] 7. Sunlight [] 6. N/A 7. Other (specify).....

623 Why do you treat the water? 1. Kill germs [] 2. Don't know [] 3. Advised by specialist / professional [] 4. Remove colour []
5. Soften [] 6. Other (specify).....

624 Do you use separate containers for drinking water and for general household use? 1. Yes [] 2. No [] 3. Don't know []

625 How do you store drinking water in the house?

1. In open containers (Buckets, jericans, Pot) 2. In closed containers [] 3. Other (Specify)-----.

626 How do you scoop/draw the water from the household containers for drinking?

1. Using a special container [] 2. Using any container [] 3. With hands [] 4. Pouring from the container [] 5. Other (specify).....

627 State any one disease condition any of your household members has experienced after drinking untreated water from local water sources (Only one response)

1. Diarrhea 2. Cholera 3. Typhoid 4. Amoeba dysentery 5. Malaria
 6. Worm infestation 7. No response / Don't know. 8. None 9. Other (specify)
 628 Does your household deworm? 1. Yes 2. No 3. Don't know
 629 If so, how often? 1. Once in 3 months 2. 3 to less than 6 months 6 to less than 9 months 4. Once a year
 5. N/A 6. Don't know
 630 Does any of your household members sleep under mosquito nets? 1. Yes 2. No

SECTION 5: CAPACITY BUILDING

Have you or any member of your household got training in any of the following?

	SUBJECT OF TRAINING	If yes, specify who gave the training 1. ESD / WWF-LVCEEP 2. ESD PARTNER 3. CBO 4. CDF 5. Other NGO 6. Government 7. College / School 8. CDF 9. Self sponsored 10. Other (specify)	720 Yes, got training and / but 1. Applying/ teaching the skills with confidence 2. Applying/ teaching the skills with difficulty 3. Not applying because lack opportunity 4. Not applying because not confident 5. N/A	721 comment
700.	Fences			
701.	Woodlots			
702.	Kitchen/ school garden			
703.	Sack mounds			
704.	Vegetable growing			
705.	Fruit growing			
706.	Bottle irrigation			
707.	Waste Recycling			
708.	Hedge fruit growing			
709.	Water conservation			
710.	Soil conservation			
711.	Prepare organic manure / compost			
712.	Tree nurseries			
713.	Talking compound			
714.	Nature walks			
715.	Crafts			
716.	Proper solid waste management			
717.	Cleaning school facilities			
718.	Establish herbal gardens			
719.	Energy saving jikos / stoves			

722 If so, how has this training helped you and / or your household (multiple response allowed)

1. Better Hygiene, Sanitation and Health
2. Improved Living Standards of household
3. Improved Nutrition of household
4. Improved Farming / Crop Production Skills
5. Better household food security
6. Improved household / community access to / availability of Water
7. Improved environmental conservation practices eg establish woodlot, better understand importance of trees
8. Increased Income / Profit
9. Better Care For Children
10. Don't Know
11. Nothing
12. N/A

SECTION 6: SMALL AND MEDIUM MICRO ENTREPRISES / ECONOMIC DEVELOPMENT

800 What main economic activity have you engaged in in the last one to two years.

801 Is this the same as five years ago? 1. Yes 2 no, it changed

802 If no, explain

- 803 What new SME activity have you engaged in in the last one years.
- 804 Is this the same as five years ago? 1. Yes 2 no, it changed
- 805 If no, explain
- 806 What is your average household Income **per year** or month (Ksh) (Husband and wife together)
 State figure in (.....kshs per year:..... Ushs per yearUshs per year
 Rwanda dollars per year..... **OR**
 807 (.....kshs per month:..... Ushs per MonthUshs per month
 Rwanda dollars per month.....
- 808 How does this compare with five years ago?
- 809 If its better now, what is the cause of the increase?
- 810 Have you ever applied for a MFI fund in the last 2 years? 1. Yes [] 2. No []
- 811 If yes, have you got any funds? 1. Yes [] 2.No []
- 812 If yes, how much?.....
- 813 Who gave the credit?
 1. ESD 2. ESD PARTNER 3. Government of Kenya 4. Self sponsored . 5.
 2. Other (specify)

SECTION 7: ESD PRACTICE BY HH

Community view about the local school

In the school:	1. Yes 2. No	comment
900 School has a green curriculum		
901 Use whole school approach in its activities		
902 Uses environmentally friendly natural resources management		
903 Uses appropriate technology in its operations and management		
904 School has a greening initiatives in its curriculum		
905 Has greening initiatives in its non curriculum activities		
906 Has at least an income generating g activity		
907 Has an outreach activity to host community		
908 Has a strong environment club		
909 Has capacity build every stakeholder through the ESD		
910 Has improved livelihoods of the host community		
911 Deals with issues which help deal with community problems (i.e. create solutions to community problems)		

SECTION 8: Community practice of ESD

Select what your household practices at home (SELECT ALL THAT APPLY TO YOUR HOUSEHOLD)	932 ESD activity Practiced by household 1. yes 2. No	933 specify who introduced it to HH 1. School through meetings 2. Child, from school / ESD tour 3. Mother, from school, ESD tour, group membership 4. Father, from school, ESD tour, group membership 5. Family member, From public meetings 6. Family member, from other NGO/ CBO 7. Self sponsored/ household got from own source 8. Other (specify)	934 Yes, got training and / but 1. Applying/ teaching the skills with confidence 2. Applying/ teaching the skills with difficulty 3. Not applying because lack opportunity 4. Not applying because not confident 5. N/A
a) 912 Engage in environmental conservation activities			
b) 913 Practicing conservation / sustainable			
c) 914 Has restored home Fences			
d) 915 Has Woodlots			
e) 916 Kitchen garden / Vegetable growing			
f) 917 Sack mounds			

g)	918 Fruit growing			
h)	919 Bottle irrigation			
i)	920 Recycling			
j)	921 Hedge fruit growing			
k)	922 Soil / Water conservation			
l)	923 Prepare organic manure / compost			
m)	924 Tree nurseries / Have tree seedlings			
n)	925 Talking compound			
o)	926 Nature walks			
p)	927 Crafts			
q)	928 Proper solid waste management			
r)	929 Cleaning school facilities			
s)	930 Establish herbal gardens			
t)	931 Energy saving jikos / stoves			

APPENDIX 8: BENEFITS OF ESD TO COMMUNITY

ESD has given my HH	1. Yes 2.No	Comment, e.g. state number
ESD has empowered me through a) 1000 New knowledge b) 1001 New skills c) 1002 New attitudes d) 1003 New motivation e) 1004 New values f) 1005 New passion and energy		
I participate actively in school environmental/ greening activities o) 1006 Planted a fruit tree p) 1007 Take care of fruit trees q) 1008 Planted a non-fruit tree r) 1009 Take care of non-fruit trees s) 1010 Planted vegetables t) 1011 Take care of vegetables u) 1012 Planted grass / lawn v) 1013 Take care of grass / lawn w) 1014 Done other landscaping x) 1015 Takes care of a landscape y) 1016 Planted flowers z) 1017 Takes care of flowers aa) 1018 Prepared seedling bb) 1019 Pick solid waste without reminder cc) 1020 Sort wastes in school dd) 1021 Ensure other pupils don't dump wastes ee) 1022 Built energy saving jikos ff) 1023 Use energy saving jikos for school meals		
I participate actively in home environmental/ greening activities a) 1024 Planted a fruit tree b) 1025 Take care of fruit trees c) 1026 Planted a non-fruit tree d) 1027 Take care of non-fruit trees e) 1028 Planted vegetables f) 1029 Take care of vegetables g) 1030 Planted grass / lawn h) 1031 Take care of grass / lawn i) 1032 Done other landscaping j) 1033 Takes care of a landscape k) 1034 Planted flowers l) 1035 Takes care of flowers m) 1036 Prepared seedling		

n) 1037 Built energy saving jikos		
o) 1038 Use energy saving jikos		
1039 I contribute towards decision making in school		
1040 I am have transferred a greening project in the school to home		
1041 I am have transferred a greening project in the home to school		
I participate in school decision making		
e) 1042 What to plant where		
f) 1043 Prefect election		
g) 1044 Having a new idea I learnt elsewhere implemented in school e.g. a greening activity		
I wash hands (without reminder) a		
d) 1045 After visiting a toilet		
e) 1046 Before eating		
f) 1047 Before feeding a child		
I wash hands with soap and water (without reminder) after		
d) 1048 After visiting a toilet		
e) 1049 Before eating		
f) 1050 Before feeding a child		
I have participated in ESD		
f) 1051 ESD ambassador to community		
g) 1052 ESD ambassador to school		
After the ESD experience I feel		
g) 1053 High level of self esteem		
h) 1054 Better placed with life skills		
i) 1055 I can be a better educator		
j) 1056 Self motivated and self directed		
k) 1057 Confident and versatile		
l) 1057 Permanently transformed		

This is the end of the survey. Thank the respondent for their patience and cooperation.

Appendix 9: QUESTIONNAIRE FOR TEACHERS

School.....country.....village..... Gender M / F Age.....

In the school:	1. Yes 2.No	comment
A: as an individual		
I know and understand the ESD concept		
I believe in the ESD philosophy		
I am enthusiastic about the ESD concept		
I have personally benefited from ESD practice		
I believe others can be better off with ESD practice		
My school is better with ESD		
B In the school:		
School has a green curriculum		
Teaching is participatory		
Learning among pupils is participatory		
Teaching among teachers is practical		
Learning among pupils is practical		
Learning among pupils is self driven		
Teaching / Learning among pupils is learner centred		
Teachers exhibit ESD in their academic school task		
Teachers exhibit ESD in their non-academic school task		
Use whole school approach in its activities		
Uses environmentally friendly natural resources management		
Uses appropriate technology in its operations and management		
School has a greening initiatives in its curriculum		
Has greening initiatives in its non curriculum activities		
Has at least an income generating g activity		
Has an outreach activity to host community		
Has a strong environment club		
Has capacity build every stakeholder through the ESD		

Has improved livelihoods of the host community		
Deals with issues which help deal with community problems (i.e. create solutions to		

1. Comments on the ESD?

7. How much are you involved in the ESD project?

High: ESD leader (teacher / patron) 2. High (non ESD patron) 3. Moderate 4. Minimal 5. None

8. How has your ESD awareness helped your family?

Most successful ESD activity in the (i) School

ii. Community

APPENDIX 10: KII GUIDE AND OBSERVATION CHECKLIST FOR SCHOOLS (HEAD TEACHERS / TEACHERS / ESD TEACHERS)

Name of school

Nature of school: ESD..... Outreach.....

Village

County

District

Country

a) School enrolment

Class/ grade	Gender	2009	2010	2011	2012	2013	2014
1	M						
	F						
	T						
2	M						
	F						
	T						
3	M						
	F						
	T						
4	M						
	F						
	T						
5	M						
	F						
	T						
6	M						
	F						
	T						
7	M						
	F						
	T						
8	M						
	F						
	T						

b) Drop-out and transition

Class/ grade	Gender	2009	2010	2011	2012	2013	2014
1	M						
	F						
	T						
2	M						
	F						
	T						
3	M						
	F						
	T						
4	M						
	F						
	T						
5	M						
	F						
	T						
6	M						

	F						
	T						
7	M						
	F						
	T						
8 (Kenya)	M						
	F						
	T						
Admission to Form 1/ Grade 9	M						
	F						
	T						

c) Academic performance

Clas/ grade	Gender	2011				2012				2013			
		Excellent 400+marks	Good 300's-	Fair 200's	Poor Under 200	Excellent 400+marks	Good 300's-	Fair 200's	Poor Under 200	Excellent 400+marks	Good 300's-	Fair 200's	Poor Under 200
1	M												
	F												
	T												
2	M												

Number of latrines for pupils: Total.....Boys.....Girls.....Urinals.....

Number of latrines for Teachers: Total.....Males.....Females.....

Observe: presence of hand washing facilities...number.....

Observe: hand-washing facility (Leaky tin) and / or Water for hand washing in school.....

Do you have a lunch programme in school? Explain how its managed

d) How has ESD helped?

e) How the school management committee is elected, managed / run, manages its meetings, and incorporated ESD?

f) What capacity does the SMC have?

e) What are the capacity gaps?

f) How has the school integrated ESD into its

- Curricular activities?
- Non-curricular activities

g) How does the school engage the following into ESD activities?

- Community
- Teachers
- Pupils
- parents
- Ministry of education
- Other stakeholder
- Non-teaching staff?

h) What would you consider the most outstanding ESD activity in:

- i. The school?
- ii. The community?

i) ESD practice by school

	Select what your school practices, and comment on each of them (multiple options allowed)	ESD activity Practiced by School	424. If yes, specify who introduced the idea 1. School through meetings 2. Child, from school 3. Child, from ESD tour / 4. Mother, from school, ESD tour, group membership 5. Father, from school, ESD tour, group membership 6. Family member, From public meetings 7. Family member, from Government	0-No 425. Yes, got training and / but 1. Applying/ teaching the skills with confidence 9. Applying/ teaching the skills with difficulty 10. Not applying because lack opportunity
		1. yes 2. No		

			extension and training 8. Family member, from other NGO/ CBO 9. Self sponsored/ household got from own source 10. Other (specify)	11. Not applying because not confident 12. N/A
1.	School has hand washing facility (leaky tins)			
2.	School has clean water for whole year			
3.	School has lunch feeding programme			
4.	School has environmental club			
5.	Engage in environmental conservation activities			
6.	Practicing conservation / sustainable agriculture			
7.	Using energy saving jikos			
8.	Have tree seedlings			
9.	The school compound has the following:			
	a) Practicing conservation / sustainable			
	b) Has restored home Fences			
	c) Woodlots			
	d) Kitchen garden / Vegetable growing			
	e) Sack mounds			
	f) Fruit growing			
	g) Bottle irrigation			
	h) Recycling			
	i) Hedge fruit growing			
	j) Soil / Water conservation			
	k) Prepare organic manure / compost			
	l) Tree nurseries / Have tree seedlings			
	m) Talking compound			
	n) Nature walks			
	o) Crafts			
	p) Proper solid waste management			
	q) Cleaning school facilities			
	r) Establish herbal gardens			
	s) Energy saving jikos / stoves			