PROPOSED NTEAP BEST PRACTICES
BY COUNTRIES
9/8/07

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BURUNDI.

Best Practice 1

IMPROVED COOKING STOVES

THEME: Energy saving / Environment protection

LOCATION: District of Mutumba, Karuzi province

INDIGENOUS/CONVENTIONAL: The practice of the technique of constructing improved cooking stoves is conventional and a best practice as it is very simple and all materials used are local. As the matter of fact, those improved cooking stoves are constructed with laterite soil, clay, grasses, ash and bricks. Those materials can be easily found naturally by rural communities without spending money for buying them. Those stoves can be portable for facilitating training and cooking activities. Those improved cooking stoves use the third of firewood quantity when compared to the traditional cooking stoves made with three stones Those improved stoves are then contributing to the reduction of trees cutting and then to the environment protection. More than 2,000 improved cooking stoves have been constructed in Mutumba District.

STAKEHOLDERS AND BENEFICIARIES:

- Direct beneficiaries are rural population of Mutumba District;
- The main stakeholder is the NGO APRN/PEPB (Association pour la Protection des Ressources Naturelles pour le Bien Etre de la Population au Burundi) which inititated the project.

STRENGTHS AND WEAKNESSES

Strengths

- Those improved cooking stoves are very cheaper in terms of construction as well as in training on their construction techniques (all materials used can be easily found naturally without spending money);
- It contributes strongly to the reduction firewood used for cooking food.

Weaknesses

Some rural communities cook food outside. Then this improved cooking stove is destroyed by rain when used outside.

LESSONS LEARNT

The improved cooking stove is being popularized by rural communities and some communities proposed to the local administration to make the use of that stove an obligation in order to contribute to the environmental protection.

POTENTIAL FOR REPLICATION:

The technique of construction and use the improved cooking stoves can be replicated in the whole country of Burundi as there is no need of money to buy materials and the technique is simple.

PERIOD: The technique is used since one year.

BUDGET AND SOURCE OF FUNDING: The NTEAP/MG program which has contributed with a financial support of USD 600 for that practice.

CONTACT PERSON : Benoit Nzigidahera, tel : 257 78 827077

ORGANISATION INVOLVED :

APRN/PEPB (Association pour la Protection des Ressources Naturelles pour le Bien Etre de la Population au Burundi)

Best Practice 2

GRAFTING TECHNIQUE

The technique is about the improvement of fruits species (orange, lemon and avocado trees)

THEME: Poverty alleviation and soil management

LOCATION : District of Taba, Gitega province

INDIGENOUS/CONVENTIONAL: The practice is conventional and is qualified as a best practice. As the matter of fact, the grafting technique is simple and is done by young people using local materials (knives, hoes, buckets, watering cans, organic manure, etc…) and consist of planting traditional species of fruits trees and after proceed to grafting of cuttings of improved species to seedlings of traditional fruits species. After the grafting, seedlings grafted are then maintained by project beneficiaries who are 120 young people from neighbours households and who have been trained on that new techniques. Improved fruits trees are then popularized and sold to rural communities of the Taba District as well as to communities of other provinces such as Muyinga, Karuzi, Muramvya and Cankuzo provinces. That

technique is very well appreciated by rural communities as those trees produce fruits quickly with a best fruits quality.

STAKEHOLDERS AND BENEFICIARIES:

Stakeholders are:

- Grating Center of Garoua in Cameroon who provided grafts;
- ISABU (National Agriculture Researcher Institute) which provided its support in grafting technique;
- Forest Department (of the Ministry of Land Management, Tourism and Environment) by its support in cutting techniques and grafts sanitation;
- PREBU (Program on Burundi Rehabilitation financed by European Union) by financial support;
- The NTEAP/MG program has supported a MG project since 4 months and activities of grafting techniques of avocado trees are being implemented (3,000 seedlings of avocado are already produced)

STRENGTHS AND WEAKNESSES:

Strengths:

- The garden of trees which produce grafts is well appreciated by stakeholders and project visitors;
- The project is making its own publicity through activities carried out. 24,000 grafting cuttings have been produced;
- Projects managers made by youth are planning to build a factory of orange juice production;
- The project is contributing to income increasing as well as to nutrition improvement for beneficiary households.

Weaknesses:

- The success rate of grafting is only 70 % because some errors made by projects beneficiaries in grafting;
- Staff for monitoring trees grafted in rural areas is not enough.

LESSONS LEARNT:

- Fruits production is popularized in Taba District
- Fruits can strongly contribute to the nutrition of rural communities;
- Fruits cultivation is an income generating activity for rural communities;
- The NGO “Agakura” implementing the project is making its own publicity;
- The project is creating employment for the youth of Taba.

POTENTIAL FOR REPLICATION:

The technique of trees fruits grafting can be easily replicable in the whole country of Burundi as the technique is simple and cheaper and materials used are local. Until now, rural communities from 4 provinces have been trained in that technique and are implementing it in their villages.

PERIOD: The technique is used since 3 years

BUDGET AND SOURCE OF FUNDING: The PREBU (Program of Burundi Rehabilitation) which contributed for USD 19,000

CONTACT PERSON: Déo Banzirumuhito, tel : 257 77 741 663

ORGANISATION INVOLVED: The NGO Agakura

Best Practice 3

LAND MANAGEMENT

THEME: Soil protection and food security

LOCATION: Kagoma watershed, District of Buhiga, Karuzi province

INDIGENOUS/CONVENTIONAL:

The practice is conventional and the technique of soil protection and watershed management are initiated by rural communities. The project is related to simple techniques of Kagoma watershed arrangement integrated to rational management of soil fertility practices such as nursery activities, agroforestry, forestry, integration of agriculture to cows breeding, fruits cultivation and erosion control activities. The practice is simple and qualified as a best practice. It is indigenous and applicable everywhere soil is degraded within the whole region of Karuzi province and all materials used are indigenous (frame A, ropes, hoes, shovels, ect…) and cheaper, and can be easily bought or fabricated by rural communities as project beneficiaries have been trained on all project activities. The beneficiary team is trained in all project techniques and those techniques are replicated by beneficiaries themselves.

STAKEHOLDERS AND BENEFICIARIES:

- 50 households whose members are former rebels are direct beneficiaries of the project and are themselves implementing the project ;
- The NTEAP/MG program for the financial support;
- The Karuzi Provincial Direction of Agriculture and Breeding by monitoring support;
- The CDF (a National Women Organisation) for beneficiary women sensitization;
- The CNLS (National Centre for Fighting the HIV);

- The World Food Program (through it “Food for Work Program”) by providing food to project beneficiaries while implementing environmental protection activities;
- The FAO by providing improved seeds of potatoes;
- The INECN (National Institute for Environment and Nature Conservation) and the Ministry of Land Management, Tourism and Environment by providing forest and agro forest seeds ;
- Local administration for security of communities;
- The Karuzi Cooperative for Saving and Credit.

STRENGTHS AND WEAKNESSES

Strengths:

- Master of techniques of seedlings production and soil protection techniques;
- The project is popularizing soil protection and improvement in the region of Karuzi, as a best practice;
- The project is increasing income for beneficiaries and contributing to food security. As the matter of fact, the project has produced 18 tons of potatoes, and 2.5 tons of maize : 30% of that production is kept as seeds, 30% consumed by beneficiaries and 30% sold

Weaknesses:

- Non project beneficiaries steal sometimes seedlings in the nursery and then the quantity of seedlings planned to be used is not enough.

LESSONS LEARNT

- It is possible to ensure food security in Burundian rural areas if stakeholders are seriously involved for improving that domain;
- Local materials and techniques can well contribute to soil improvement and protection;
- Rural communities can strongly contribute to environmental protection they are well trained and sensitized.

POTENTIAL FOR REPLICATION :

The technique is easily replicable in the whole country by using the same local techniques and materials and site of the project is now a place of experience exchange between rural communities.

PERIOD : The technique is used since one year

BUDGET AND SOURCE OF FUNDING: The NTEAP/MG program which has contributed with a financial support of USD 24,460

CONTACT PERSON :

Charles Bigirindavyi, Réseau Burundi 2000 plus Coordinator
Tel : 257 22 219814 / 257 79 923 143

ORGANISATION INVOLVED :

The NGO Réseau Burundi 2000 plus

Best Practice 4

. FOREST MANAGEMENT

THEME: Reforestation

LOCATION: Bugarama zone, District of Muramvya, Muramvya province

INDIGENOUS/CONVENTIONAL:

The practice is conventional and the technique of trees plantation is initiated by rural communities. The project is related to trees seedlings production and trees plantation in Bugarama zone in order to contribute to the Kibira forest protection. The practice is simple and is a best practice as an initiative of 1350 women and 150 men who aim to protect the. That women group is called "DUKINGIRIKIBIRA" which means "LET US PROTECT OUR KIBIRA FOREST". The technique of planting trees and the approach of protecting that forest are indigenous and applicable everywhere forests have been destroyed in Burundi. Materials used are indigenous (buckets, watering cans, organic manure, ropes, hoes, shovels, etc…) and cheaper. The beneficiary women group is trained in all project techniques and those techniques are replicated by beneficiaries.

STAKEHOLDERS AND BENEFICIARIES:

- 1500 households direct beneficiaries are themselves implementing the project ;
- The NTEAP/MG program for the financial support;
- The World Food Program (through it "Food for Work Program") by providing food to project beneficiaries while implementing environmental protection activities;
- The INECN (National Institute for Environment and Nature Conservation) and the Ministry of Land Management, Tourism and Environment by providing forest and agro forest seeds and providing advices in forest and natural resources protection ;
- Local administration.

STRENGTHS AND WEAKNESSES

Strengths:

- Master of techniques of trees seedlings production;
- The project is popularizing its activities in the Muramvya province as a best practice;
- The project has interested high authorities of the country. As the matter of fact, H.E. the President of the Republic has visited the project and given USD 5,000 to the community for implementing other activities (potatoes and cabbage production and mushroom cultivation.

Weaknesses:

- It is not easy to manage a big team of 1,500 members around the project

LESSONS LEARNT

- Trees plantation techniques are liked by women group in some regions of Burundi;
- Women in Burundi can strongly contribute to the environment protection.

POTENTIAL FOR REPLICATION:

The technique is easily replicable in other areas of the country where forests have been destroyed.

PERIOD : The technique is used since one year

BUDGET AND SOURCE OF FUNDING: The NTEAP/MG program which has contributed with a financial support of USD 10,800 for that activity for producing 400,000 trees seedlings.

CONTACT PERSON :

Rénilde Masunzu, AFEB President

Tel: 257 79 935 910

ORGANISATION INVOLVED :

The NGO AFEB (Association Femme Environnement au Burundi)

Best Practice 5

LOCAL FOREST GENETIC RESOURCES CONSERVATION.

The initiative is related to the establishment of an Arboretum with the participation of local communities. The objectives include ex-situ conservation of local forest genetic resources, safeguard of traditional knowledge of the population on the use of local plant species and ecological tourism promotion.

THEMES

The initiative is addressing lost of biodiversity, deforestation, water and soils conservation and poverty in long term.

LOCATION

The Arboretum of BUTAGANZWA is located in the north of Burundi, in the Commune of BUTAGANZWA, province of KAYANZA (at about 100 km from BUJUMBURA)

INDIGENOUS/CONVENTIONAL?

The practice consists in establishment of an arboretum with autochthonous plants and trees species around which the community will develop tourist activities. Before beginning the project, local populations were consulted and they identified the species to be planted in the arboretum on the basis of their knowledge on the species adapted to the region and the various local uses of those species.

The project will make it possible to preserve the biological species which were in the process of disappearance and is classified among the best practices ones. It will also make it possible to make the site of the arboretum a site of tourist and cultural interest, and this will allow the creation of employments for the populations from the commune of BUTAGANZWA. Students and researchers will often come there to carry out studies on the species which are established in the arboretum. These trees species will be also widely disseminated to promote forestry and agroforestery and thus contribute to water and soils conservation.

STAKEHOLDERS AND BENEFICIARIES.

The main beneficiaries are:

- Burundian populations living in regions with the same climatic conditions as the KAYANZA region. They will be able to plant those local species within the framework of promoting forestry and agroforestery;

- Researchers and students will be able to get the biological species required for training and research;

- Populations from the BUTANGANZWA Commune will get employment and thus revenue within the framework of tourism development activities;

- The commune of BUTAGANZWA will be able to levy taxes resulting from tourism activities.

Project stakeholders include:

- National Institute for Environment and Wildlife Conservation which brings technical support required for the arboretum establishment;

- The commune of BUTAGANWA made land arrangements for the establishment of the arboretum and contributes in its delimitation;

- NTEAP which finances the project with a budget of 30 181 US $;

- Population from the BUTAGANZWA Commune identified species of plants and trees to be planted in the arboretum and participate in its establishment.

STRENGTHS & WEAKNESSES

Strengths

The project profits from the support of local government and the population and this is comforting as regards project sustainability.

Weakness

The project will require, after its establishment, important recurrent costs particularly related to the maintenance and guarding of the arboretum.

Lessons learnt.

The National Institute for Environment and Wildlife Conservation should make budgetary provisions that are essential to deal with certain recurrent costs of the Project, after its establishment.

Both NIEWC and the local government and communities should analyse the possibilities of making of the site a tourist place and see how to build the required tourist infrastructure.

POTENTIAL FOR REPLICATION

The practice should be reproduced elsewhere in other areas where natural ecosystems are in the process of degradation. It is the only manner of safeguarding their rich biological diversity. The costs can be minimized thanks to a broader participation of local population.

PERIOD

The implementation of the project has been undertaken since September 2006

BUDGET AND SOURCES OF FUNDING

- Budget from NTEAP: 30 180 US $
- Contribution from the National Institute for Environment and Wildlife Conservation : 5 919 US$.

CONTACT PERSON:

Mr. Benoît NZIGIDAHERA, Expert in Biodiversity at the National Institute for Environment and Wildlife Conservation;
E-Mail: nzigidaherabenoit@yahoo.fr

ORGANIZATIONS INVOLVED

- The National Institute for Environment and Wildlife Conservation.
- The Commune of BUTAGANZWA.

EGYPT

Best Practice 1

1. Title and description	**Ideal disposal of agriculture wastes.** The project is to train around 100 farmers on how to compost agriculture waste (such as banana leaves wastes) to organic fertilizer to be used in the farmland. It will also train 4 agriculture extension persons & 2 members from the CDA on compost production. In addition, awareness raising to farmers is another essential component of the project to raise awareness of the importance of the organic fertilizer produced by composting such wastes that would be otherwise disposed of in the Nile as well as the adverse environmental and public health effects of such unsound disposal.
Themes	Water quality degradation Environmental awareness raising
Location	EL Shiekh Essa village located in the east side of the Nile River (North), 9 Km from Qena City
Indigenous/conventional?	This is not an Indigenous/conventional technique for recycling, it's introducing an innovative approach to handle Banana wastes

	to produce an environmentally friendly compost and reduce Nile water contamination.
Stakeholders and beneficiaries	EL Sheikh Essa CDA, Farmers of EL Sheikh Essa village and Agriculture association, Irrigation department. Beneficiaries: EL Shiekh Essa community (10,000 persons)
Strengths & weaknesses	**The strengths :** - Using the agriculture wastes in a useful matter to generate an organic compost - Protecting water courses from contamination. - Coordination with other donor activities (such as A-Life project funded from USAID) - The project is done in full coordination with the Irrigation department. - highly demanded by farmers after seeing its results **Weaknesses :** - the farmers were not familiar with the innovative technique and thus awareness raising & training activities are needed to get their acceptance and ability to implement at the beginning
Potential for replication	The project could be replicable especially in the poor villages due to: Low cost technique – simple approach - Using bio-fertilizers instead of chemical fertilizers
Additional information	Due to its evident success, farmers from neighboring villages requested to rent the shredder to replicate this technique in their lands. Although it was not foreseen in the project formulation phase, the NGO has now a sustainable source of revenue coming from renting the shredder.
Period	April,2006 – April,2008
Budget and sources of funding	Total: LE. 141,240 Community contribution: LE. 40,600 MG contribution: LE. 100,640
Contact person	Sayed Karar – Executive Director of the CDA .
Organizations involved	EL Shiekh Essa Community Development

Association – Qena / Egypt

Best Practice 2

Title and description	**Poverty alleviation through enhancing female capacity to generate income.** Under the microgrants component, several initiatives have been successfully implemented to train women in traditional handicraft production and offer micro- credit as a means to increase household income.
Themes	Project targeting women group
Location	El Khairia El Islamia Associatio (Gezerat Aaswan Bahary), El Rowda Women Association, El Edwa CDA
Indigenous/conventional?	The interventions build on training new generations of females on traditional/conventional handicrafts to generate income.
Stakeholders and beneficiaries	The local CDAs, Social affairs Beneficiaries: direct: 100 female Indirect: 100 household (approximately 500 person)
Strengths & weaknesses	**The strengths :** - Creation of job opportunities - Provision of income and improvement of standard of living of approximately 500 person - Reviving traditional handicrafts - Utilization of local environmental resources such as sheep wool, palm Leaves, etc. - The project is designed to have the NGO support the beneficiaries by handling the marketing of the products. This is a point of strength as it promotes the selling of the products and reduces the risks on the individual beneficiaries. **Weaknesses :** There might be a risk (estimated to be 10%) in fault loan payments**.**

Potential for replication	The project is replicable especially in the poor villages as it utilizes readily available materials and low- cost production techniques.
Additional information	---
Period	April,2006 – April,2007
Budget and sources of funding	**Gezeret Aswan Bahary**: Total: LE. 99,000 Community contribution: LE. 12,890 MG contribution: LE. 86,110 **EL Rawda Women Development Association** Total: LE. 83,135 Community contribution: LE. 5,640 MG contribution: LE. 77,495 **EL Edwa CDA:** Total: LE. 85,655 Community contribution: LE. 14,130 MG contribution: LE. 71,525
Contact person	**Gezeret Aswan Bahary**: Khaled Mahmoud Ahmed **EL Rawda Women Development Association** Yasmina Khalil Mohamed – Board member **EL Edwa CDA:** Abdel Satar Ali Mohamed
Organizations involved	- Gezeret Aswan Bahary: - EL Rawda Women Development Association - EL Edwa CDA

Best Practice 3

Title and description	**Conservation of water resources & improvement of economical conditions for the small farmers.** This project is to conserve water resources, increase agricultural productivity and reduce environmental pollution by increasing the efficiency of irrigation (which uses 80% of the water)in Egypt. It is to increase income of the poor farmers whose agricultural

	production is the main source of income. This is done through lining the conventionally-used irrigation canals to reduce the water losses through seepage into the groundwater table that lead to agriculture land degradation. This was also observed to significantly reduce weed and pests growth, increase crop productivity and consequently reduce use of pesticides. 50.5 Km of canals are to be lined.
Themes	Water quality degradation
Location	The project was implemented in 4 villages in 2 districts in Qena Governorate (EL Barahma – Kom Belal / Naqada district) and (EL Negoaa Bahary – EL Faresia in Essna district)
Indigenous/conventional?	This project is to induce an improvement in the traditional/ conventional irrigation techniques.
Stakeholders and beneficiaries	Qena Agriculture Union Federation, Directorate of Irrigation, Water Users Association, Farmers Beneficiaries: Farmers and low-income villagers
Strengths & weaknesses	**The strengths :** - Optimizing benefits from natural resources namely water and agricultural land - Reducing environmental pollution - Highly acceptable by farmers as it increases their income and reduces their health and environmental risks. **Weaknesses :** ----.
Potential for replication	The project could be replicated else where in the Nile Basin countries- especially those that are now starting to rely more on irrigation through rainwater harvesting.
Additional information	
Period	July 2006 – December 2006

Budget and sources of funding	MG contribution: 25,000$
Contact person	Mostafa Abdel Kareem - President – Qena ,Qena City, Tel + 2 0102076902
Organizations involved	Qena Agriculture union federation, Directorate of Irrigation, Directorate of Agriculture

Best Practice 4

Title and description	**Building the capacity of beneficiaries to implement environmental conservation interventions** NTEAP has had good practices by building the capacity of local beneficiaries to enable them to design, implement and manage environmental improvement interventions. This is considered as a sustainable means of inducing change in the community as it enables the beneficiaries themselves to address their problems with minimal external support. In short, this 'good practice' teaches the beneficiaries how to fish- rather than giving them a fish. An example is where the MG component funded a project to build the capacity of 4 weak NGOs to enable them to manage environmental project cycles. The project offered the NGOs extensive institutional building trainings in PRA, planning, project formulation, good governance, project management, administrative and financial management, gender, etc. Another example is the school projects where NTEAP is implementing project-based learning as a means to have the students identify the problem they need to address, the activities they will do, develop the project document and implement the project in a learn- by- doing process. An excellent show-case is the awareness raising project implemented in El Menia Language School where the students decided that they are to address the problem of irrational water consumption, designed the activities to do so and implemented the project on their own.

Themes	Institutional Capacity of beneficiaries
Location	The NGO capacity building project was implemented in 4 villages in Qena. The school project was in El Menia Secondary Language School- Menia City
Indigenous/conventional?	NO
Stakeholders and beneficiaries	Beneficiaries: including CDAs, NGOs and school students (youth)
Strengths & weaknesses	**The strengths :** Building capacity of beneficiaries to be sustainably improve their environment with minimal reliance on external support. **Weaknesses :** **----**.
Potential for replication	The project could easily be replicated else where in the Nile Basin countries.
Additional information	The school project has had a very profound impact and was thus very successful in having the student get on-the-job training while succeed in what they are doing.
Period	MG project: 18 Months School project: 3 Months
Budget and sources of funding	MG project : 25,750$ School project: 1750$
Contact person	MG PROJECT: Fatma Ibraheem Ali - President – Mahrousa, Collective Governmental unit, Tel + 2 096 5342863 School project: Ms. Iman Saad Zaghlool Menia Secondary Language School- Menia
Organizations involved	CDAs, NGOs, youth (students)

Best Practice 5

Title and description	**Improvement of living conditions and environmental protection through provision of sound low-cost sanitation facilities to the rural poor** NTEAP has had good practices in improving the living conditions and protecting the environment in villages through providing low-cost sanitation. Both household as well as collective techniques have been implemented by NTEAP and can be classified as ‘good practices’ Under the collective systems, NTEAP has implemented two successful show-cases as follows: System A: A truck and a trailor where procured to collect the sewage from the house septic tanks periodically. The wastewater was taken for treatment in an oxidation pond constructed by the project. The effluent of the pond was used to plant trees nearby. Affordable monthly fees are to be collected from the villagers to operate and maintain the system. System B: Grey water from the households was collected in public disposal points constructed by the project. It was treated in an underground chamber followed by an aerated gravel filter. The effluent can be used in irrigating trees nearby or safely disposed of in a nearby drain. Affordable monthly fees are to be collected from the villagers to operate and maintain the system Under the household unit, NTEAP constructed latrines in each house under which a storage tank was constructed. No fees are to be collected from the households, however they will need to pay for periodically emptying the tank. As the untreated wastewater is conventionally either disposed of in the Nile and/or its tributaries or seeps into the groundwater table, all the NTEAP interventions are considered good practices in significantly protecting the environment, reducing health risks and improving living conditions of the poor in villages.
Themes	Sanitation

Location	The oxidation pond project is in The grey water system is in Zawiet Sultan village in Mania Governorate The latrines project is in
Indigenous/conventional?	NO
Stakeholders and beneficiaries	Beneficiaries: rural poor
Strengths & weaknesses	**The strengths :** -All the interventions have profound impact on the villagers and the environment - These systems are very cost- effective, with significantly lower costs than the traditional wastewater treatment techniques - The villagers were extremely happy with these interventions. They all expressed that the monthly fee they will pay is actually significantly lower than what they are currently paying to dispose of their wastewater. **Weaknesses :** - The collective systems need land. - The system need good management to keep it operational.
Potential for replication	The project could easily be replicated else where in the Nile Basin countries.
Additional information	
Period	MG project: 18 Months School project: 3 Months
Budget and sources of funding	Grey water project : 486000$ Latrine project: 25000$ Oxidation pond project: 25000$
Contact person	MG PROJECTS : Mr. Khaled Bayoumi MG coordinator Grey water project: Ithar Khalil NPC

Organizations involved	CDAs, NGOs, local units, beneficiaries

ETHIOPIA

Best Practice 1

Title and description	**Itsekomol Medicinal and Indigenous Plants Plantation and Conservation Project.** The project has planned to collect, plant, and conserve priority medicinal and other indigenous plants that have unique importance to soil and bio-diversity conservation, and also to contribute to improving community health. Supported by further community awareness creation efforts, such activities are believed to optimize benefits that are directly linked to the Nile Basin environmental interests. In a nutshell, it focuses on capacity building of communities and staff of local technical , establish tree nurseries and plant medicinal trees, implement soil erosion mitigation activities, live fencing on cultivated lands, home gardens, gully treatments.
Themes	➢ Biodiversity conservation ➢ Degradation control
Location	Amhara Regional State, Awi Zone, Kosober
Indigenous/conventional?	The project is based on indigenous knowledge of medicinal plants and traditional healing practices. It is innovativeness is explained in such a way that it is planned to interlink conservation, medicinal interest, livelihood and institutional perspectives together.
Stakeholders and beneficiaries	Itsekomol medicinal plants association, Farmers of kossober area, youth associations of Awi Zone, the local development line offices, The regional development offices, the regional research institution.
Strengths & weaknesses	**The strengths :**

	- Interlink traditional medicinal knowledge with conservation interest, - Puts traditional medicinal secrets transparent to the youth group - Readiness to work with any interested body - The project is done with full collaboration and support of the regional and local governments. - Effort in compiling progress for knowledge management - Ignited interests at national level **Weaknesses :** **-** The technique of plant selection is not easy to large group of the potential stakeholders.
Potential for replication	The project has replicable potential due to : Availability of local seeds, the technique is based on local knowledge, the availability of a number of organized groups for further planting and close interest and support by the local government. In a nut shell, every procedure is indigenous.
Additional information	Due to its evident success, farmers from neighboring villages requested to rent the shredder to replicate this technique in their lands. Although it was not foreseen in the project formulation phase, the NGO has now a sustainable source of revenue coming from renting the shredder.
Period	December,2006 – November,2008
Budget and sources of funding	Total: USD 25000 Community contribution: LE. 40,600 MG contribution:
Contact person	Arega Eshetu– Chairman of the Itsekomol Medicinal Plants and conservation Association .
Organizations involved	➢ Itsekomol Medicinal Plants and conservation Association. ➢ Amhara Environmental Protection Land Administration and Use Authority

Best Practice 2

Title and description	**Household Based Forest Development with in The Upper Jejeba Watershed Project.**

	Involving capacity-building of communities in basic forestry and agro-forestry, in order to improve natural resources of the area, rehabilitation of degraded communal steep land and also rehabilitating and strengthening of the existing central nursery, raising and distributing seedlings, encouraging establishment of private nurseries, provision of farm tools and planting trees, clean and adequate water supply, farm plot treatments
Themes	Forest development and land conservation
Location	Amhara Regional State, South Wollo Zone, Kelela Wereda, Jejeba watershed
Indigenous/conventional?	The interventions showed the possibility of utilizing social community institutions for conservation objectives and spread private nursery development as an important entry point.
Stakeholders and beneficiaries	The local Community institutions (Kirre), Local development line offices, Local administrations Beneficiaries: direct: 600 Households female Indirect: 100 household (approximately 1215 Households)
Strengths & weaknesses	**The strengths :** - Utilization of social institutions for conservation intervention - Bylaw development and use - Private nursery development -**Weaknesses :** Small number of female beneficiaries
Potential for replication	The project is replicable due to its strategy to utilize the known social institution as well as local bylaws accepted by the community.
Additional information	The intervention is a new initiative and trial which can encourage other social institutions established for different purposes and also gives lessons to the government bodies to apply similar strategy in spreading development agenda.
Period	July 2006 Till now
Budget and sources of funding	MG contribution: **US $ 24,045**

Contact person	**Team Today and Tomorrow (TT&T)**: ➢ Tesema Chekun, Project Coordinator
Organizations involved	- Team Today and Tomorrow: - Jejeba Area Kires (Social Institutions)

Best Practice 3

Title and description	**Community Water Shed Management in Mentera Kebelle** The project involves community capacity-building, awareness creation, trainings and sensitization on Watershed management techniques, tree plantation and conservation of natural environment, construction of soil conservation measures such as check dams, cutoff drains, terracing, plantation of forest trees, spring development, procurement and provision of hand tools as incentive and capacity building of a local CBO/AZULMA. .
Themes	Land conservation
Location	Amhara Regional State, South Wollo Zone, Albuko Wereda, Mentera Kebelle, Wenfech, Jegola and Sirrefursse locality
Indigenous/conventional?	This project focuses on conventional physical soil conservation method.
Stakeholders and beneficiaries	Rural residents of Shotelmat Mentera locality, Beneficiaries: Around 1000 households of the locality
Strengths & weaknesses	**The strengths :** - Created a new institutional partnership with local NGO, - Managed to mobilize free and high participants contribution. **Weaknesses :** Nothing specific seen
Potential for replication	The project could be replicated else where in the Nile Basin countries- especially those that are facing severe soil degradation.

Additional information	The implementer is a newly formed CBO
Period	January 2007 Till now.
Budget and sources of funding	➢ MG contribution: **US $ 24,989** ➢ Community : 14,183USD ➢ Albukona Zuriaw Association(AZULMA) /Support for Sustainable (SSD) Development: 747 USD
Contact person	➢ Eng. Gebreyes Haile, General Manager (SSD) ➢ Kebede Worku, Director
Organizations involved	➢ Albukona Zuriaw Association(AZULMA) ➢ Support for Sustainable (SSD) Development: 747 USD ➢ Local administration and development line offices

Best Practice 4

Title and description	**Shiret Medhanealem Monastery Environmental Protection Project**. involving capacity building of communities, establish tree nurseries and plant trees, introduce energy saving stoves, promote dung for compost making, encourage use of chaff for fattening domestic animals, carryout family planning and create awareness of nature conservation, promote environmental education at schools, impart HIV/AIDS awareness lessons, promote zero grazing and planting of better pasture grass species, use extension services currently be effected at the local level to regenerate forests and woodlands and inculcate resource ownership amongst the community.
Themes	Land Conservation
Location	Amhara Regional State, East Gojjam Zone, Dembecha Wereda.
Indigenous/conventional?	Integrated approach
Stakeholders and beneficiaries	Beneficiaries: including 600 monks , residents out side the monastery, and school students (youth) in the area.

Strengths & weaknesses	**The strengths :** ➢ Building capacity of beneficiaries ➢ Challenges the cultural barriers associated with religious institutions (Development than only conservation) ➢ Serving as demonstration for the youth near the monastery **Weaknesses :** ----.
Potential for replication	The project could easily be replicated else where in the Nile Basin countries where similar institutions are existing..
Additional information	
Period	MG project: January 2007 Till now
Budget and sources of funding	➢ MG project : **US $ 25,000**
Contact person	**Mulualem Berhane, Project Coordinator**
Organizations involved	➢ Shiret Medhanealem Monastery ➢ Dembecha Wereda Administration ➢ Dembecha Wereda Agriculture and Rural Development Office ➢ Schools in the wereda

Best Practice 5

Title and description	**Conservation and Management of Zegie Peninsula Forest Eco-System** The intervention is involving capacity-building of communities in order to improve the forest eco-system management; planting of horticulture seeds and fruit trees; promote and implement multi-purpose afforestation activities; and conduct apiary programmes through which create alternative income source and reduce burden on the forest resource;
Themes	Natural forest conservation
Location	Amhara Region, Bahir Dar Municipality,

	Zegie town
Indigenous/conventional?	----
Stakeholders and beneficiaries	Beneficiaries: 500 Households
Strengths & weaknesses	**The strengths :** -The approach focuses on solving the causes of deforestation than trying to halt deforestation through direct intervention. -All the interventions have profound impact on the local residents and the environment - The approach linked livelihood interest with conservation objective **Weaknesses :** - Consideration of women in the intervention is not as expected
Potential for replication	The project could easily be replicated else where in the Nile Basin countries with similar ecosystem and socioeconomic set up.
Additional information	The area is one of the survived natural forests found at the heart of Lake Tana.
Period	MG project: June 2006 Till now
Budget and sources of funding	MG Fund : **US $ 23,930**
Contact person	**Ato Dejene Minliku, Program Director** **Ato Million Alemayehu, Liaison officer**
Organizations involved	Organization for Rehabilitation and Development in Amhara (ORDA)

KENYA

Best Practice 1

1. Title and description	**Gully Rehabilitation** using indigenous, medicinal and high valued plants.
Themes	Land degradation control and control siltation to lake Victoria
Location	Nyando District about 56km from Kisumu Town .

Indigenous/conventional?	Formation of gully trusts for five gully catchments spread within the division. Members of each gully trust selects the most appropriate plants and locally available resources, which stem gully formation, heals the gully and have economic values to the members. Plants used include Aloe Vera with medicinal value; Sisal used to provide fibre and Artemisia for treatment of Malaria; Planting of bananas on the healing gullies provide food.
Stakeholders and beneficiaries	**community members** directly and indirectly affected by the gullies – heal gully, income from plants, training. Direct population involved is 522 women and 482 men. With the Healed gully will have fur reaching benefits to whole division and Lake Victoria.
Strengths & weaknesses	**Strengths**: community initiative to come together and solve common problem; sustainability through formation of smaller manageable units of gully trust; Enhanced full community participation and ownership; community capacity enhancement and experiences sharing among gully trust members and groups. **Weaknesses:** ?????
Potential for replication	Replicable since use locally available material that has income generation potential so providing direct benefit so motivation. Gullies are a major problem in the area and lessons for replication can be learnt from here.
Additional information	The project has a strong public-private sector partnership as they not only use Government technical officers for gully control design but has as well collaborated with the Kenya Energy Generating Company for the provision of technical services in tree nursery establishment and have donated over 200,000 tree seedlings to various Gully trust groups and schools around.
Period	The NYADEC has been using this methodology since June 2006.
Budget and sources of funding	NTEAP contribution of USD 25,000 and NYADEC contribution of USD 417, Kenya Energy Generating Company (KENGEN) – 200,000 tree seedlings
Contact person	Executive Chairman Mr. Peter Nyabua, Phone +254 723 796 621 email: nyadec@yahoo.com
Organizations involved	Nyando District Center for Environmental Conservation (NYADEC)

Best Practice 2

Title and description	**Sheltering widows with appropriate building blocks**, is a project encouraging use of stabilized soil blocks as opposed to the fired brick in construction of houses.
Themes	Forest conservation and land degradation control
Location	Siaya District, Rangala area about 60km from Kisumu Town.
Indigenous/conventional?	The technology is developed by a private company in Nairobi for low cost, environment friendly housing projects. Decision to use technology influenced by need to reduce serious deforestation resulting from use of fire bricks. The soil pressing blocks machine have a capacity to produce upto 500 blocks a day, and operated manually provides a source of employment for youth and women who receive training. The soil blocks use a smaller ratio of cement depending on the soil type, and are made with grooves that interlock during construction and reduce need to use mortor for joining them, which drastically reduces the cost of construction. The blocks are not fired so do not use fuel wood.
Stakeholders and beneficiaries	**Seed Development Group** & **Ugunja Community Resource Center –** Implementers, training, income, low cost housing **District Environment Office**, - Technical support; **local churches** – built from demonstration bricks, identification of other beneficiaries; **widows** – partial support to build houses that act as demonstration units, **community members** – learning new technology, low cost construction; **youths** – introduction of new income generation activity.
Strengths & weaknesses	**Strengths:** Support to vulnerable groups – widows; self employment potential for out of school youth; reduced use of fuel wood; **Weaknesses**: entry point being vulnerable community members the stabilized blocks may be conceived as not stable enough for well to do community members construction of houses. But the group is addressing this by reaching out to other members who want to construct their houses are able to contribute a 100% the costs and also be learning points.
Potential for replication	Brick making is widespread in the country so technology can be replicated as an alternative to fired bricks.
Additional information	Having close collaboration with the District Environment Office under NEMA useful in selling the technology within the district,
Period	The project started in August 2006
Budget and source	NTEAP contribution of USD 25,000, Seed group and the community is contribution USD 25,309 in kind.
Contact person	Group Chairperson Ms Millicent A. Otieno, Phone: +254 733 975 345, email: mitieno21@yahoo.com

Organizations involved	Seed Development Group in Partnership with Ugunja Community Resource Center

Best Practice 3

Title and description	**Nile Schools TB Environmental Projects**: **Project based Learning** The Schools activity aimed to create an environment where students can apply knowledge acquired in the class room to real life problems affecting the community, thus develop lifelong values and skills for improving environmental conditions, and promote school-community linkages. This has contributed to the overall purpose of the EE&A Component - to increase public awareness of the environmental threats to the Nile environment and their link to community livelihood, with a view to changing communities' behaviour towards good environmental practises.
Themes	Public Awareness on Nile Environmental Threats -
Location	See location of Kenya schools on separate sheet
Indigenous/ conventional?	Unique public awareness model Ability to create awareness on various environmental threats, and solutions Min Cost model that effectively targets future generations and changes attitudes and behaviour Model that reaches several stakeholder groups over a long period of time
Stakeholders and beneficiaries	Students – Learning resource; Teachers – facilitators, teaching materials, training; Schools – Income, solution to problem; Community – learning resource, sharing information, income, solution to environmental problem; Other institutions of learning and civil society groups – Learning resource
Strengths & weaknesses	Strengths: Life long learning; reaches several stakeholder groups; sustainable; addresses environmental threats to school and community; replicable. Weaknesses: Crowded school curriculum; dependent on principals' support;
Potential for replication	• Replicable – several schools are doing follow up projects or using technique to address other environmental threats, • Farmers close to the schools have started projects in their homes with their own resources • Students have copied the projects at home • Generated a lot of interest from other schools and institutions of learning • Income generated has been used to further the projects and start

	new ones.
Additional information	Spill over benefits – Parents involvement in activities of environmental clubs Schools efforts to acquire computers for improved information access Income to community from working on projects Income to school used to provide lunches, finance other school activities
Period	NTEAP – 1 year
Budget and sources	See attached table for NTEAP and school/community contributions to the projects
Contact person	See attached table for contacts for the schools and teachers
Organizations involved	Ministry of Education, Schools, Community members and groups, Government departments, working group members, civil society groups, and NTEAP

Best Practice 4

Title and description	**Waste Recycling**: Bishop Atundo Primary school started a waste recycling project using litter found in the school compound, which has demonstrated an alternative source of energy - briquettes, the processes in waste recycling to compost and use of recycled waste in Gardens, tree nurseries and for cooking to both the students and community living around their schools.
Themes	Pollution control, land degradation, deforestation, public awareness
Location	Butula division, Busia district, Western Province, Kenya
Indigenous/ conventional?	Effectively addressed several Environmental threats in one project Demonstrated several ways to utilize waste Demonstrated alternative source of energy to wood fuel Learning resource to students and community
Stakeholders and beneficiaries	Students – Learning resource, support to HIV/AIDS Orphaned students; Teachers –teaching materials; School – Income generation from selling garden produce and briquettes; Community – learning resource, sharing information, Available vegetables and tree seedlings, and demonstrations they can replicate;
Strengths & weaknesses	**Strengths:** Sustainable; provided income to the school; learning resource to community to promote behaviour change; Addresses

	social issue of Poverty and Support to vulnerable groups, replicable. **Weaknesses:** Crowded school curriculum;
Potential for replication	Replicable - Low cost to start, Some students have already tried it out at home, income generating so is self supporting
Additional information	Spill over benefits – Provide a meal at school for students orphaned by HIV/AIDS, School open to community members willing to learn from the project
Period	NTEAP – 1 year
Budget and sources	NTEAP – USD 1,987 School and community – USD 4,135
Contact person	Richard Obiero - 0735699929 Daniel Sihalo - 0735739301 Arnold Othieno - H/teacher - 0733537124
Organizations involved	Ministry of Education, Schools, Community members and groups, Government departments, and NTEAP

RWANDA

Best Practice 1

Title and description	Project on Animal traction training to reduce soil erosion around River Muvumba
Themes	- Reduce soil erosion on bare soils caused by cattle hooves as they track to river Muvumba. - Reduce siltation on R. Muvumba in Sector Rwempasha. - Train farmers in animal traction and other improved agricultural methods for increasing their yields and incomes. - Reduce the burden on women and young children of fetching water from long distances. - Reduce the spread of diseases. - Facilitate planting and transportation of fodder in order to promote zero grazing
Location	Rwempasha, Nyagatare District, Eastern Province (Rwanda)
Indigenous/conventional	Animal traction is an indigineous practice in some countries of East Africa mainly in Tanzania and Uganda as cattle or donkeys are often used in various farm activities through animal traction. Therefore the practice

	can easily be adopted by Nyagatare farmers in Rwanda where cattle keeping is a quite predominant occupation. The animal traction is regarded as best practice because as of now all the 120 beneficiaries have leant how to use ox-carts to fetch water from river Muvumba and some have already trained their animals and have even bought their own ox carts. Using ox-carts to fetch water has a lot of significant economic impact in the area. It reduces the movement of livestock over long distances just to drink water from river Muvumba. This actually would promote improved dairy farming through zero grazing as only two oxen can fetch 1,000 liters for the other animals zero grazed at the farm. This denifinitely will significantly contribute to poverty alleviation as more income will be generated from more milk produced. Also there will be less soil erosion in the area caused by animal movement thus contributing positively to the environment
Stakeholders and beneficiaries	There are 120 beneficiaries out of which 28 are females and 92 Males
Strengths & weaknesses	The important strength of the technology is that Nyagatare is an area where there are a large number of local cattle and farmers are willing to use the animals in draft power. Key weakness is that ox-carts could be a bit expensive and might not be affordable to many farmers.
Potential for replication	The animal traction technology is easily replicable as it was picked from Tanzania and now it has quickly adopted in Nyagatare and soon it will spread to other parts of Rwanda.
Additional information	
Period	8 months.
Budget and sources of funding	USD 23,426
Contact person	Eugene Rwibasira (NGO Coordinator) .
Organizations involved	Rwanda Development Organisation (RDO)

Best Practice 2

Title and description	Integrating the control of water hyacinth by adding value to the hyacinth though production of handicraft materials such as baskets, hats, chairs etc
Themes	Collection of water hyacinth from lake Rumira and

	transform it into marketable handcraft products such as baskets, hats, table mats, bags etc
Location	Gashora, Bugesera district, Eastern Province (Rwanda)
Indigenous/conventional	The transformation of water hyacinth into valuable products is indeed a new technology but Rwandese women are used to plaiting so soon after being taught they coped quite readily.
Stakeholders and beneficiaries	There are 50 women in an a cooperative called COVAGA
Strengths & weaknesses	The important strength of the technology is that women are familiar to plaiting other handicraft products from papyrus and banana sheaths. The handicraft products of water hyacinth are readily sellable and the communities can earn some income out of this business. However the weakness is that collection of water hyacinth from the lake could be a bit cumbersome for women
Potential for replication	The transformation of water hyacinth is quite replicable as there other groups in Tanzania and Uganda who are engaged in this kind of water hyacinth controlanimal traction technology is easily replicable as it was picked from Tanzania and now it has quickly adopted in Nyagatare and soon it will spread to other parts of Rwanda.
Additional information	There are other places in Rwanda infested with water hyacinth and so the experience of this technology will likely be applied in those areas.
Period	6 months.
Budget and sources of funding	USD 25,000
Contact person	Jane Muhongayire (NGO Coordinator) .
Organizations involved	BAMPOREZE

Best Practice 3

Title and description	Projet de la protection du bassin versant de la riviere Cyangwe et lutte contre la pauvrete de la population locale de Murambi and Gakoma
Themes	The project is about soil erosion control in an integrated

	manner. It involves construction of radical terraces, water retention ditches and hillside irrigation
Location	Murambi and Gakoma sectors in Ngororero district, Western Province (Rwanda)
Indigenous/conventional	The technology is more or less becoming indigenous as it has been introduced in Rwanda for some decades now. However it was not practiced in an integrated manner. Rwanda being a mountainous country and dependant on agriculture, the integrated approach in soil erosion control will be a lot beneficial to the farming communituies as it involves: establishment of soil erosion control structures, planting of fodder and as well as utilizing hill water for all the year round hillside irrigation as well as introducing dairy cattle production. The animals will feed on the planted fodder and be able to produce more milk for income generation
Stakeholders and beneficiaries	There are 50 farmers (30 men and 20 women) in an association called TUZAMURANE
Strengths & weaknesses	The key strength of the technology is that the community is fully aware of the soil erosion problems and so will take the technology readily for enhanced crop production as there is also a component of dairy animals which will be source of income. The weakness is that construction of terraces could sometimes be labour intensive and somehow costly.
Potential for replication	This integrated approach of soil erosion control could easily be replicated particularly in all mountainous places affected by soil erosion.
Additional information	
Period	12 months.
Budget and sources of funding	USD 24,990
Contact person	Frederic Munyangabo (NGO Coordinator) .
Organizations involved	SOCAMAF

Best Practice 4

Title and description	Protection des berges et bassin versants de la riviere

	Mukungwa contre l'erosion et system Agricole destructif par le mise en oeuvre de l'approche du system agricole de production integree
Themes	The project is about soil erosion control in an integrated manner. It involves construction of radical terraces, water retention ditches and hillside irrigation
Location	Muko and Rwaza sectors in Musanze district, Northern Province (Rwanda)
Indigenous/conventional	This technology is more or less becoming indigenous as it has been introduced in Rwanda for some decades now. However it was not practiced in an integrated manner. Rwanda being a mountainous country and dependant on agriculture, the integrated approach in soil erosion control will be a lot beneficial to the farming communituies as it involves: establishment of soil erosion control structures, planting of fodder and as well as utilizing hill water for all the year round hillside irrigation as well as introducing dairy cattle production. The animals will feed on the planted fodder and be able to produce more milk for income generation
Stakeholders and beneficiaries	There are 25 farmers (15 men and 10 women) in an association called TWIZAMURE TURENGERA IBIDUKIKIJE
Strengths & weaknesses	The key strength of the technology is that the community is fully aware of the soil erosion problems and so will take the technology readily for enhanced crop production as there is also a component of dairy animals which will be source of income. The weakness is that construction of terraces could sometimes be labour intensive and somehow costly.
Potential for replication	This integrated approach of soil erosion control could easily be replicated particularly in all mountainous places affected by soil erosion.
Additional information	
Period	12 months.
Budget and sources of funding	USD 22,338
Contact person	Fidele Uwimpaye (NGO Coordinator) .

Organizations involved	COOCASTER

Best Practice 5

Title and description	Protection de l'environement et allegement de la surcharge de la femme par l'utilisation des cuisinieres solaires des fours ameliores et les corbeilles thermos dans le district Bugesera, Region de l'EST
Themes	The project is about using alternative sources of energy for cooking instead of relying on fuel wood. Beneficiaries are being trained in making solar cookers, clay stoves and thermal baskets
Location	Cellules of Kanzenze, Cyugaro and Kibungo in the district of Bugesera
Indigenous/conventional	This technology is new as people are not used to these cooking equipment but it is being adopted rapidly due recurring firewood problems and due its ease of application
Stakeholders and beneficiaries	487 members (437 men and 53 women)
Strengths & weaknesses	The key strength of the technology is that the community are desperately eager to take new ways of cooking that save wood fuel use. The weakness is found on the solar panels using aluminum foil as there should be enough sunshine for better cooking
Potential for replication	The technology is replicable as it easy to adopt
Additional information	
Period	6 months.
Budget and sources of funding	USD 22,434
Contact person	Jean Claude Kabalisa (NGO Coordinator) .
Organizations involved	ASOFERWA

SUDAN

Best Practice 1

Title & Description: *Natural Water Cooling System*

Why Natural Water Cooling System / What is it addressing?

Finding a healthy cool drinking water in the public areas, in hot dry developing countries, is really a great problem. In Sudan, people use the traditional Zeer[1], fig. (1), which causes many health hazards, the greatest of which is the spread of infectious diseases, as well as its subjection to dust, animal use, algae production and insects. A functional problem is the long time needed to cool water when the Zeer is evacuated. One other problem is the real need to periodic cleaning .The merit of its cheap price is denied by the subjection to being broken.

The Natural Water Cooling System is an efficient means to solve all these problems. The main concept is an innovation of Mr. Abd Elaziz Altayeb Hassan – Senior Lecturer in Sudan University of science and Technology, Faculty of Fine and Applied Arts, Industrial Design Department. The Natural Water Cooling System Unit was then strongly adopted and developed by SECS.

Using tabs in the new system doesn't involve entering people's hands the matter diminishes the health hazards. The gradual replacement of drinking water guarantees moderately cools water most of the time. Although its initial cost is a bit high we have to consider that it doesn't need maintenance.

Design Description

The unit has a rectangle shape. It is composed of two concentric rectangles of bricks providing 20-cm distance between them, where a galvanized pipe coil passes through. This coil is surrounded by the cooling medium (coarse sand, crushed bricks…etc). The main concept is cooling water passes through the coil by the cooling medium while the spilled water from the outlet tabs is keeping this medium always wet. Users get the cooled water using the outlet tabs.

A circular model was developed by Dr. Yahia Hassan Hamid (Faculty of engineering and Architecture – U. of K) based on the difference of the wind directions in Sudan states. In this model the ordinary brick was replaced by perforated brick and the galvanized pipe by a plastic pipe.

Thus, the unit should be constructed under a tree shed to protect it from the direct sun radiation. It will be more efficient if it is located in a green open space to let the air flow help in cooling the medium and the water. The spilled water from the model can be used to irrigate the surrounding green environment.

Location:

Primary schools and other public places in Khartoum and other states in Sudan (hospital,

universities, mosques…)

Indigenous / conventional? :

[1] Zeer: a water pot used to cool drinking water in Sudan

Indigenous. It is simple and could be implemented anywhere depending on the availability of water source. It addresses a vital issue which is availing clean, hygienic drinking water, in addition to the educational part of rational utilization of the water resource.

Stakeholders and beneficiaries:-

School children, students, community people, and donor organizations (Hajar charity foundation (local), INGO's, Individuals……

Strengths and Weaknesses:-

Its main strengths stem from that it is simple and addresses a major environmental concern.

Of the weaknesses noticed:
-Weak water pressure at the inlet point in some areas may prevent water from filling the model water pipe.
-Waste accumulates in the central basin.
-Misuse from some users.
Many of the weaknesses were already overcome.

Potential for replication:
High potential for replication. This is indicated by the widespread of the unit all over Sudan and it could be replicated in other Basin countries.

Data and Records:

The tables below show the degrees of temperature measured in three days:

Medium	**Temperature C°**
Air	43
Water at inlet	28
Water in the (Zeer)	26
Outlet water (rectangular model)	18
Outlet water (circular model)	20

Medium	**Temperature C°**
Air	36
Water at inlet	29
Water in the (Zeer)	26
Outlet water (rectangular model)	20
Outlet water (circular model)	21

Medium	**Temperature C°**
Air	37
Water at inlet	29
Water in the (Zeer)	26.5

Outlet water (rectangular model)	20
Outlet water (circular model)	21.5

Period:-
The unit was first installed as one of the components of the project "Environmental Rehabilitation of Primary Schools" in three schools. Now it is spread all over the country (more than 100 units in schools and other public places).

Budget and sources of funding:-

Latest cost per unit ranges between 240000- 250000 (SD) for the rectangular model, 250000 – 260000 (SD) for the circular one. Other local circumstances have to be considered; like the distance to the source of water, the availability of a shade or shelter if there is no natural tree shed and the availability of a water tank depending on the water pressure at the inlet point.
The first funding organization for the project was Hajar Charity Foundation; the other INGO's and even individuals continued implementing the project in different places.

Contact Person:
Mr. Ali Al-Khalifa Alhassan
Sudanese Environment Conservation Society (SECS)
Box: 44266 Khartoum Center 11114
Email: secs1975@yahoo.com

Best Practice 2

Title and description	Deepening of the Natural water – Catchments Pond of Sam Turuk. The tribes of the area who are originally Fulani are livestock herders and they are practicing agro-pastoral mode of livelihood. During the rainy season, they move with their herds to the famous grazing area in eastern Sudan, Butana. They stay there for two to three months before they are forced to move south to stay near River Rahad to water their animals. Their presence along River Rahad cause them many problems as they compete with the people who live in the same area on the meager water resources available especially when the summer season advances and the river forms only small-scattered ponds. While moving from Butana to Rahad summer camping areas they frequently intrude into surrounding farms and they are subjected to legal fines as the farmers claim that they damage their farms. Inadequate range resources along the riverbanks also force the pastoral people to take their livestock to graze within the buffer zone of the Dinder National Park. The Wild Life Guards arrest pastoral people, confiscate their livestock, and take them to courts for violating the rules that prohibit grazing in the area. .

Themes	Soil and water conservation and poverty reduction.
Location	Sudan, Gedaref State, about 120 km to the south of Gedaref town.
Indigenous/conventional?	Simple idea initiated by the community addressing several environmental issues.
Stakeholders and beneficiaries	he project was implemented in close collaboration and partnership of: - Gedarif State government who generously tributed funds and released its staff from planning, estry and Pastures to work on the project - Pastoralists Union - Gedarif Women Development Association (WDA) - Al Masar Nomadic Society
Strengths & weaknesses	Grass roots initiative. Collaboration between stakeholders. Addressing several environmental issues. The strengths and weaknesses of the practice are indicated, These lessons learnt are valuable for others who are interested in replicating the practice.
Potential for replication	Great as these areas lacks water sources.
Additional information	
Period	The project was implemented during 2006. It is on use as from January 2007.
Budget and sources of funding	NBI (micro grant program = US $ 25,000 Gedaref State Government = about US$ 10,000
Contact person	Mr. Mohamed Yousif Mabrouk. Cell phone + 00249 122233997 E-mail mabrouk@practicalaction.org.sd
Organizations involved	Practical Action (formerly Intermediate technology Development Group)

Best Practice 3

Title & Description: *Water harvesting techniques for improved food and fodder production*
Water harvesting is the collection of rain water or runoff for productive purposes. This technique can be easily used by farmers and animal keepers in some local communities in drought prone areas. It is a directly productive form of soil and water conservation. Both yields and reliability of production can be significantly improved with this method. The practice is to excavate furrows or basins in the ground surrounded by small earth bunds or stones. Runoff or rain water is collected within these furrows or basins and stored in them for used during water deficits, especially covering for drought periods during the growing. It can be used for planting of food crops, fodder and trees.

Themes:
This initiative addresses mainly poverty, water and land conservation coursed mainly by unreliable rainfall amounts and persistent drought spells and Ineffective land management practices which have resulted in loss of herds, increased food deficits and the degradation of the environment.

Location: This practice is located in Northern Kordofan State (In Elain area).

Indigenous: Conventional: As it is usually easier for local people to accept what they have already known, water harvesting is not new to Sudan, especially the trapezoidal bund known as 'Teras'; and other shapes include the crescent, V and U-shapes in Northern Kordofan called locally an the Un Ganah. Therefore, the improvement of the existing traditional technique has a considerable scope and does not require new farming skills. These techniques, however, need improvement and modification taking into consideration all scientific principles and the best available data on rainfall and runoff in order to develop an economically and sustainable efficient land management practice.

Stake holders & Beneficiaries:
- Subsistence poor resource farmers subject to chronic food deficit mainly as a result of insufficient and erratic rainfall and soil erosion
- Vulnerable groups to recurrent droughts such as the sedentary (Transhumance) pastoralist and the nomads who sometimes depend on crop residues after harvest
- Poor locals. Especially the women. Who have to track long distances in search of fuel wood, poles and other forest products.
- The Agricultural Department and other Non governmental Organizations running large agricultural (mechanized) schemes.
- The Forestry Services and other stakeholders in the field who will benefit from the technology by the enhancement of tree establishment
- Developmental, Educational and research Institutes

Strengths & Weaknesses: The strengths of these techniques are that Marginal lands can be put into production use. Poor farmers and animals keepers can utilize the technique because it does not require much capital or inputs. The techniques are not new to the local communities. An efficient water harvesting system will improve plant growth in the majority of years. The practice can be replicated in areas with similar climatic and soil Conditions. The weakness may include Of course in a year of sever drought no runoff can be harvested; runoff is only harvested when it rains. It requires much man power to establish but once established little labor is needed for maintenance. The water harvesting structures take up valuable land. Others, who are interested in repeating the practices, are cause of its simplicity and it's available and not cost a lot.

Potential for replication:
Various forms of water harvesting exist which have been used traditionally throughout the centuries. Many of these techniques have been copied and used else where successfully, however, although some techniques are site specific, other methods can be tailored to suit particular areas with different topography, soils and climatic conditions. All in all regions water harvesting is especially relevant to the semi-arid and arid areas where the problems of environmental degradation, drought and population pressures are most evident.

Additional information: This practice has been repeated in the White Nile State East of Elgetaina City (Elgetaina Shelterbelt) with a great success.

Period: The practice has been used in the Kordofan (Elain area) since
(1989-2001).

Budget & Source of Funding:

Contact person: Prof/ Ahmed Ali Salih, Director, Forestry Research Center (Soba)

Organization involved: SOS, Forest National Corporation, Local Community of the area in Northern Kordofan Elain community).

Other information: Discussions, demonstrations and participation will be the most appropriate methods of disseminating the technology to the rural poor people. Here all stakeholders in the village will be involved in all stages of the project; village gatherings will be organized by chiefs or other influential persons. Discussions will be open to all, and it will be important to listen to the locals' point of view about how they tackle the problem traditionally. Later, describe the new technology stressing the modifications done to improve on theirs, these will include all scientific principles. Demonstrations and implementation of the technology will follow by the help and participation of all stakeholders around, utilizing land owned by volunteer leaders. Monitoring and evaluation of the innovation will be executed by inviting the all participants SOS - FNC (Forest National Corporation + Local Community of the area in Northern Kordofan Elain community).

Best Practice 4

Title and description	**Agro summer farm** Agro Summer Farm in Kadalo area, Blue Nile State, Short term project under the Micro-grant project. The project established public farms for the cultivation of crops during the summer time when there will be fewer activities in the villages and eventually no income. The three villages targeted were Aradeeb Eltigani with population of 1200, Elebaik 2120 people, and Dalaib Magadi with population of 3000. Land was availed by the inhabitants and the execution and the monitoring was made by the village committees. An extension program was also undertaken by the intermediate organization; The Environmentalists Society. 30 Butane gas cylinders and cockers were distributed to 30 farmers from each village at rental price to be as a revolving fund later
Themes	Indigenous/ conventional: Establishment of the farms, their cultivation for the previous season is the pronounced bench mark for the progress of this project. Now each village has it own irrigation appliances and land to be cultivated each season during the summer, moreover the butane gas and the cockers is another bench mark to the success in convincing the farmers to switch to alternative energy sources and ease the

	pressure on natural resources.
Location	Rahad villages- Blue Nile State
Indigenous/conventional?	Establishing such a project in the villages of Elrahad will set an example to the whole Nile Basin area as the project calls for public participation, application of research findings and creating a forum for dialogue and cooperation between the beneficiaries as well as the Nile Basin Initiative. Moreover, the project can be an example which can be replicated in some of the Nile Basin countries.
Stakeholders and beneficiaries	Number of females: 1950 Number of males: 2750 Number of children: 2000
Strengths & weaknesses	Crops were cultivated during the last season, sold and the rest was consumed by the beneficiaries themselves at low prices and the agricultural debris was fed to their animals. Furthermore, some of the beneficiaries now owned gas cylinders and cockers to use. One of the major weakness I suppose was the unavailability of the required funds for executing activities when needed always tend to push forward the schedule
Potential for replication	The project can be an example which can be replicated in some of the Nile Basin countries.
Additional information	The role of establishing committees to lead the society is now realized by the society and they were very content that resource persons were identified and they are leading the society quite successfully.
Period	Start-up Date: 01 November 05 Completion Date: 31 March 07
Budget and sources of funding	Total Project Cost: US$ 25,000 Amount received under this Agreement: US$ 22,500
Contact person	Dr. Yagoub Abdalla Mohamed Chairman, The Environmentalists Society Dr. ‘Izat Mirghani Taha, Coordinator

Organizations involved	Environmentalists Society Address: P. O. Box 10574 Khartoum No. (3)

Best Practice 5

Stabilized Soil Building Blocks for Low Cost Building for Poverty Eradication in IDP Camps of Khartoum State:

Title and description	Stabilized Soil Building Blocks for Low Cost Building for Poverty Eradication in IDP Camps of Khartoum State: Establishment of Training Centre (building centre using the technique) in Internally Displaced Population (IDPs) area to encourage the community building with stabilized soil building blocks and Ferro cement roofing as a low cost construction technology. Production of stabilized soil building blocks demands local soil and small quantity of lime or cement for stabilization and block making machine locally produced. A cooperative NGO Society from the area formed to organize and running of the building centre that provides information on the technology and making available the machine for block production for the communities.
Themes	Environmentally friendly technology for poverty alleviation program.
Location	Khartoum State, Edbabiker IDP Camp Resettlement Program.
Indigenous/conventional?	The program stemmed from the traditional practice of earth construction technology in the Sudan using locally available earth and local stabilizer. The availability of earth at any site and its low cost, and the fact that the technology lends itself as self help practice. This project was successfully applied for poverty eradication program in Khartoum State.
Stakeholders and beneficiaries	All the low income groups with special reference to the urban poor, private, public and NGOs
Strengths & weaknesses	Strong culture and self help in the Sudan. Availability of raw material (earth) and trained expertise and manpower are all

	forms of strength to this technology. Sometimes availability of stabilizers is considered a weakness.
Potential for replication	The project was already being replicated at many parts of the country with successful results.
Additional information	Two manual son subjects were produced by UNESCO. The block making machine were also produced locally
Period	The practice was first introduced in 1948, and the development continues with many applications.
Budget and sources of funding	U$ 30000 from UN HABITAT
Contact person	Eng. Mohamed Mustafa Dr. Elfadil Adam: MEPD
Organizations involved	National Research Centre Department of Architecture U of K Khartoum State Ministry of Engineering Affairs

Best Practice 6

Title of the Practice: **Tekeze-Atbara Basin Transboundary Civil Society Engagement Workshop**

1. There are historical relations between the Nile Basin communities that transcend the political boundaries. These relations provided mutual benefits for all the communities. Based on this, a workshop was convened by the Sudan National Discourse Forum (SNDF) and the Micro Grants Program (NTEAP) in collaboration with the Ethiopian NDF, the Eritrean NDF and the Egyptian NDF to get representatives of the communities (Eritrea, Ethiopia and Sudan) living in the Tekeze-Atbara Basin to discuss their common problems and formulate guidelines for a management plan for the Basin. The workshop was co financed by the Challenge Fund (NBD) and the Micro Grants Program of the Nile Transboundary Environment Action Program (NBI). The overall purpose of the workshop was to reduce poverty and improve resource governance and sustainable socio-economic development in the Tekeze-Atbara basin and to ensure the development of the resources of the basin in a sustainable and equitable way to ensure prosperity, security and peace for its entire people.
2. The activity was mainly based on participatory planning of the communities that was assisted by scientific inputs from relevant experts.
3. The main thrust of the activity was the collaborative management program that entails community action plans aiming at poverty reduction and conflict transformation.

4. The elements of water and vegetation conservation are included in the management plan in addition to disaster early warning systems and land use planning.
5. It is for the first time that the communities from three countries from the Nile Basin get together to discuss the joint problems and look for sustainable development plans.
6. The policy makers in the three countries will be involved in the process of developing the management plan of the Basin. The Government of the state of Kassala was present in the activity and fully endorsed the outcomes.
7. Getting communities across borders need financial support. The implementation of the ensuing plans would only require seed money to establish a base for the communities to implement these plans.
8. Such activity can and should be replicated all over the Nile Basin Countries.

Themes: The overall purpose of the workshop was to reduce poverty and improve resource governance and sustainable socio-economic development in the Tekeze-Atbara basin and to ensure the development of the resources of the basin in a sustainable and equitable way to ensure prosperity, security and peace for its entire people.

Location: Along the Tekeze-Atbara Basin (Ethiopia, Sudan and Eritrea).

Indigenous/conventional: The geographical coverage of the practice that covered three countries and was based on real community engagement**.**

Stakeholders and beneficiaries: There were 43 representatives of the local communities from the three countries (mainly farmers and pastoralists).

Strengths and weaknesses: The strengths are represented in the meeting of the local communities from the three countries to discuss their common problem and come out with a joint program. The weakness is the uncertainty of funding for the community action plans.

Potential for replication: This practice can easily be replicated in other parts of the Basin at various scales and durations.

Period: The meeting went for four days (18 – 21 March 2007). But the action plans and the management program are still being developed jointly.

Budget and sources of funding: The Challenge Fund, the Nile Basin Discourse: US $ 40 000 The Micro Grants Program (NTEAP) US $ 25 000

Contact Person: Adil M. Ali Sanjak1956@gmail.com

Organizations involved: Sudan National Discourse Forum (NBD), Micro Grants Program (NTEAP), and Sudanese Environment Conservation Society (SECS) Sudanese Civil Society Network for Alleviation of Poverty (SCSNAP)

TANZANIA

Best Practice 1

FAPOEL

Title and description: Artificial Mass Production of Cat Fish (*Clarias garipepinus*) for longline fishery in Lake Victoria.

Themes: The project is addressing poverty among the widows in Ukerewe district by training and mobilizing them to practice pond fish farming techniques. The preferred fish specie is the cat fish which is produced for both the fishers at a young age as well as for the consumers at a latter age. By so doing it will minimize the number of cat fish which are endangered by juvenile collectors from the lake thus the project is also addressing biodiversity.

Location This project is located in Ukerewe district (islands in lake Victoria) in Mwanza region, Tanzania.
Indigenous/conventional? Specificity the indigenous aspects of the practice where applicable. If a common practice, what aspects qualify it for best practice? (geographical coverage?, extent of its contribution to poverty eradication or the magnitude of its contribution to addressing a particular environmental concern.

Stakeholders and beneficiaries: The key stakeholders for this project are the widows in Ukerewe district. The widows organized themselves into groups and their roles include:

- Collection of the fish parent stocks from other ponds,
- Feed the fish in the ponds,
- Participate in the fish reproduction processes which include taking the pituitary gland from the fish, inject the glands to the female fish to stimulate the ovulation process, mixing the sperms with the female eggs and other duties.
- Taking care of the fingerings (new born)

Looking for the markets of their products,
Strengths & weaknesses
Some of the strengths include:

- The practice is a very good way of fighting poverty among the widows.
- The parent stocks is easily availability in the ponds and it is collected once,
- The applied reproduction technology is simple as it is applied by the very old widows some of whom does not even have basic education,

One of the weakness in this practice is that the process needs a lot of care when the fingerings are too small as they can die very easily.

Potential for replication: This technology is the very simple and therefore can be easily replicated to other areas. Even in Ukerewe district it started at one location with about four ponds but currently the practice has been replicated to more than three locations within the island.

Additional information: Any other relevant information

Period: The practice has been in use for over three years now in the islands.

Budget and sources of funding: The total budget available for the project is US$. 24,687.0. Other project donors include the beneficiaries, CIDA, and the Tanzania Fisheries Research Institute TAFIRI.

Contact person: Mr. Munyaga P. Palapala, Programme Coordinator,
Family Poverty Elimination Programme (FAPOEL), P. O. Box 87, Nansio, Ukerewe,
Tel. +255 713-713 934.

Organizations involved: Family Poverty Elimination Programme (FAPOEL),

Best Practice 2

Goat Loan Scheme

DESCRIPTION: This practice is being used to address land degradation, improve income and nutrition among people of semi-arid areas. In this practice poor farmer is loaned with dairy goat. This farmer is supposed to pay back two kids which are then given to another farmer. This farmer is committed to grow fodder trees and napier grass along contours in the farm with other crops. Furthermore, manure from the goats is used to fertilize soil to improve its productivity.

LOCATION: Masurura village, Musoma Rural District.

THEMES: Land management and poverty alleviation

INDIGENOUS /CONVENTIONAL. This is a conventional method that has now become a common practice because it is easily adapted by poor farmers. It is cheap and does not require big capital. It requires simple raised shade for the thatched with grass.

The goats are fed nutritious pastures which are napier grass and fodder trees. The yield of milk per day is 6 - 8 liters per goat. The market price per one liter of goat's milk is TShs 400-500 which give a potential income of between TZS 2,400 and 4,000 per day. The price of one dairy goat is TZS.100, 000-130,000.00.

The goats manure is used to fertilize the soil to increase crop production .The contours strengthened /anchored napier grass help to improve soil fertility. The yield of maize among farmers who have participated in the program has increased from 2 bags to 12 bags (a bag = 90 Kg) per acre. This practice highly addresses environmental conservation because fodder trees are used as pastures and at the same time improve the vegetation cover. The soils are further improved and conserved by napier and contour farming. The goats reared using zero grazing system which reduces the impact of environmental degradation

STAKE HOLDERS AND BENEFICIARIES
The stakeholders in this practice are government extension workers in that particular village who are responsible in advising the beneficial. Other stoke holders include VI Agro forestry who help in supporting the farmers fodder tree seeds. Others include Heifer International Tanzania who support the farmers with dairy goats. The beneficiaries participate full in planning an evaluation of their own activities. Women and orphans are given priority in BRAC-capacity building program.

STRENGTHS AND WEAKNESS
Strengths: It is easily adapted by poor farmers .There is a big element of improving the livelihood hence the beneficiaries are highly motivated.

Weakness: Dairy goat is a new technology so at initial stage needs a lot follow up visits to advise farmers

Best Practice 3

TITLE AND DESCRIPTION: Introduction and promotion of upland rice farming.

THEME: Poverty reduction

LOCATION: Ten villages from Bukoba Rural and Muleba Districts.

INDIGENOUS/CONVENTIONAL? It is a conventional practice.

This practice was adopted and promoted in order

i) To protect wetlands (environmental friendly).
ii) To Reduce income poverty and promotes household income.
iii) To Reduces work load of farmers and their husbands compared to lowland rice (not labor intensive).
iv) To ensure food security at household level.
v) To reduce women workload in households.

Other advantages of the upland rice include

vi) It cooks fast thus contributing in fuel wood saving.
vii) The variety is drought and disease resistant.
viii) It gives potential for increasing community income through sell of rice.
ix) Create employment.
x) It gives high yield compare to lowland rice.

STAKEHOLDERS AND BENEFICIARIES: Communities of the ten villages' community

STRENGTH AND WEAKNESS

STRENGTHS

≈ It is acceptable by local farmers in the region.
≈ Input resources are locally available.
≈ High yields compared to paddy rice.

WEAKNESS

≈ Attraction to birds
≈ Strictness/intensive follow-up of farm-calendar.

POTENTIAL FOR REPLICATION

Since it does well/flourish to any weather, can be adopted anywhere in other areas. Since it takes short time form germination to maturity (from planting to harvest) and it produce high yields it therefore a potential to create employment. It is a solution to both poverty and hunger. It can be adopted by any farmer regardless knowledge and limitation, academic backgrounds, age or sex. It can be cultivated to any fields regardless the uniqueness of that land.

ADDITIONAL INFORMATION.

It has concurred poverty and hunger in other countries e.g. Nigeria and Uganda. It has savory taste and entrancing aroma.

PERIOD: Two years.

BUDGET AND SOURCE OF FUNDING

Total budget is Tshs. 4,180,000/= . Source of funding:- UNOPS – NTEAP.

CONTACT PERSON

Mr. Yusto P. Muchuruza – Executive Director – KADETFU

ORGANIZATIONS INVOLVED

≈ KADETFU (Kagera Development and Credit Revolving Fund)
≈ North Busiru Development Association – Wakisso District in Uganda.

POTENTIAL FOR REPLICATION.
This practice can be easily applied in semi arid area. It is a livelihood improving practice hence can motivate beneficiaries in other areas.

Additional information: This practice requires equipping farmers with relevant skills and knowledge for the sustainability.

PERIOD: This practice in this practice village is in the 2nd year. How long does it take for a goat to reproduce.

Budget and source of funding: NBI-1,500,000Tsh.
One goat costs US$ 130.
Heifer international contributed 8 goats whose value is about Tsh.1, 000, 000.

CONTACT PERSON –THEOPHIL KAYOMBO-0754872512

ORGANIZATION- BUHEMBA RAC
P.O BOX 160
MUSOMA
Email- dmbrac@ juasun.net.

Best Practice 4

ENERGY SAVING STOVES PROMOTION (ESS)

The technology use less fire wood as composed to the common practices widely used 3 stoves

Theme: Land management.

Location: Masurura and Ryamisanga villages, Musoma district

Indigenous/conventional: The practice is conventional. The stoves are built using cement gravel sand and chimney in order to make one stove you need to have 25kg of cement, three wheelbarrow of sand, one wheelbarrow of gravel 9 chimney. To make the task easy farmers make models, which are portable thus make the local farmers doing the job themselves. Farmer contributions are gravel, sand, water and labour; BRAC offers cement. The practice is widely applied in 12 villages where BRAC works. Supervision for curing ESS is made by the ESS village committee. The communities like the stoves because they use less firewood compared to the open three stones stoves to cook the same amount food. Since less firewood is needed then the use of the stove reduces forest and environment degradation. On the other hand the ESS is more user friendly, as it does not smoke. To date about 150 stoves have been made by the community.

Stakeholders and beneficiaries
BRAC train farmers on how to make the ESS. Beneficiaries are farmers in 12 villages, about 2400 households.

STRENGTH AND WEAKNESSES:
The strengths of this practice
The stove is cheaper to make and construction techniques are easy to learn.
It is durable and thus last longer once built.
It use less fuel-wood.

Weakness:
1. Needs permanent kitchen room which is very rare to find in the village the community that is used to cooking outside.
2. It occupies space for the few who have kitchen
3. The top part is flat therefore does not hold the traditional pot firmly.

Lesson learnt:

1. Chimney need to be external and curved upward.
2. The stove has become popular and many people are aspiring to have it.

Potential for replication
With the use model the technology has spread very fast. Our friends from Ukerewe have taped the knowledge after training farmers at BRAC.

Period: The practice has been used for one year now (2006-2007)

Budget and sources of finding: The total budget available for practice is 1 million Tshs. from NTEAP.
Contact person: Ezekiel Kabure-Project manager, Email dmbrac @ juasun.net
Organization involved: Buhemba Rural Agriculture Centre (BRAC)

Best Practice 5

INVOLVING SCHOOL COMMUNITIES TO CONSERVE LAKE VICTORIA:

The practice is to involve pupils to overcome the environmental threats with negative impacts to lake Victoria-through addressing effects of deforestation and use of agro-chemicals.

THEMES
The Initiative addresses land conservation, water pollution and poverty reduction.

Background
Pupils are involved in environmental education and community health education. They establish tree nurseries and plant tree woodlots in their school compound to minimize soil erosion and act as wind breakers during wind period. Pupils also practice vegetable gardens where they use farmyard or cow dung manure in order to minimize non-point source pollution of the Lake Victoria. The vegetables are consumed at school and some are sold to the community. This ensures sustainability of the environmental conservation as well providing education to pupils.

LOCATION: Chumwi, Murangi, Butata and Majita primary Schools, in Musoma Rural, District

INDIGINEOUS/CONVENTIONAL: This is an indigenous practice that is supported with conventional skills and tools such tree nursery, rakes and water cans.

STAKEHORLDERS AND BENEFICIERIES
The project is involving the pupils and communities surrounding the area.

STRENGTHS AND WEAKNESS
The strengths of the practice are

1. Involvement of Schools in all stages of the project implementation thus children and young adults learn the importance of environmental protection and sustainable management at early age.
2. This practice also encourages the community to plant the trees in their areas and continuing conduct organic farming.

Weakness It takes times for children to understand the purpose of their involvement. The need of security for school nurseries against seedlings theft.

POTENTIAL FOR REPLICATION: This practice is potential to apply to other areas; school children need to be encouraged and taught why they should participate in environmental conservation measures.

ADDITIONAL INFORMATION: School pupils and communities around the area should continue to be trained and encouraged to participate in environmental conservation measures.

PERIOD: The project has been on going for the past 8 months.

BUDGET: The total budget is 29,393,000 the source of fund is Nile Transboundary Micro grants program.
CONTACT PERSON: Rhobi Samwel, J Maijo Ryoba. **ORGANISATION:** Anglican Church in Tanzania Mara Diocese.

Best Practice 6

Title: Promotion of Indeginous Knowledge in management and treatment of tree seedlings in nurseries

Description: Locally developed pesticides made from local herbs and banana fiber tubes, aims at reducing high costs of conventional chemicals and improve soil conservation.
This initiative addresses poverty, as low income earning people can afford the materials because they are readily available around the areas where they live. These materials are available at low financial and physical cost. The communities are encouraged to use these locally available and environmentally friendly herbal materials instead of using industrial pesticides. Also they are encouraged to use banana fiber tubes instead of polyethen tubes.

Theme: Land conservation and Poverty alleviation

Location: **Rulanda, Ilemera, Kyenshama and Bugara villages in Muleba – Kagera Region in the wards of Kasharunga**.

Indigenous/Conventional: **This practice is indigenous people in the past years were using this method but with the introduction of industrial materials, such methods were neglected.**

Stakeholders/Beneficiaries: **People involved include, KADET OFFICIALS and communities around Ngano River source in Muleba District and local government officials and experts.**

Strength
Materials are readily available
Communities can prepare large quantities in a short period for example; one can prepare 300 – 500 tubes a day.

Weakness
The banana fiber tubes are easily attacked by insects.
There is danger that weaker potions can be prepared and may not be able prevent against pest

Organistaion to contact: KADET, BOX 1005, BUKOBA

UGANDA

Best Practice 1

Title and description	*Growing water melon and pumpkins along the river banks to control soil erosion and reduce siltation of River Malaba*
Themes	What is the initiative addressing?: poverty, water/wetland/land conservation? *The initiative is reducing siltation in River Malaba. Water melon and pumpkins are used to reduce soil erosion, improve nutrition in the homes, and some are sold to markets in Busia (Uganda) and Kenya to increase household incomes.*
Location	Where is it located (provide a rough indication on a map) *Eastern Uganda, close to the Kenya border*
Indigenous/conventional?	Specify the indigenous aspects of the practice where applicable. If a common practice, what aspects qualify it for best practice? (geographical coverage?, extent of its contribution to poverty eradication or the magnitude of its contribution to addressing a particular environmental concern). *Pumpkins are a common crop that has been grown in Uganda for several years. The broad leaves of the pumpkin plant provide a wide canopy that covers the ground and reduces soil erosion. In addition, the crop is very important for food security at household level. After the dry season, pumpkins planted at the beginning of the rains are ready for harvest after two months. Pumpkins therefore provide food at a time when other crops are not yet ready for harvest.* *Although water melon has been exported to Kenya for some*

	time by farmers mostly in Central Uganda, very little was being produced in Busia district. Over 20 farmers in Amonikakenei parish sold water melon to Busia town and Kenya last season and more farmers are picking interest in the practice of growing water melon.
Stakeholders and beneficiaries	This entry shows who are involved in this project and in what way. If the number of stakeholders is known, this is also specified. *Forty (40) people who own land along the banks of River Malaba.*
Strengths & weaknesses	The strengths and weaknesses of the practice are indicated. The lessons learnt are valuable for others who are interested in replicating the practice. *Strengths: a) the seed of water melon and pumpkin is readily available and fairly cheap to obtain;* *b) the crop is ready for harvest in only two months after planting;* *c) the market for the crops is readily available, both in Uganda and Kenya;* *d) the crop can be consumed at home to improve the diet – both water melon and pumpkins contain vitamins and minerals;* *e) Pumpkins are fairly resistant to pests and diseases and can grow up to maturity without any control measures;* *f) The broad leaves cover the soil surface and reduce the impact of rain on the soil, thus allowing more water to soak into the ground.* Weaknesses: *a) Water melon is susceptible to pests and diseases. The project staff trained communities in the use of local organic materials for controlling pests and diseases on water melon.* *b) Pumpkins are commonly grown near the homestead because they can easily get stolen if they are planted far.*
Potential for replication	The potential for applying all or parts of the practice to other areas. *The practice can easily be replicated by other farmers. More than 12 farmers have adopted the practice as a result of copying the 40 farmers who were involved in the project.*
Period	For how long the practice has been used by the project. *One year*
Budget and sources of funding	The total budget available for the project or practice. *The project got a grant of US $ 25,000*
Contact person	*Dr. Victor Tugumizemu, Tel. 256-772-518-059*
Organizations involved	Organizations involved in the practice. *Integrated Rural Community Development Initiatives*

Best Practice 2

Title and description	***Kyotera Clean and Green: Recycling Solid Waste*** *The members of Rakai Women's Effort to Save the Environment (RAWESE) are involved in promoting improved waste management in Kyotera town. The project works closely with the town council authorities in cleaning the town. The members of the group join the town council workers, known as sanitation scouts, to clean the town on Mondays and Thursdays. The women are recycling different types of waste material and making money out of the products.* *They make mats and baskets using old plastic drinking straws, and polythene waste. Some of the women make charcoal briquettes using charcoal dust, waste paper and groundnut husks. They also make energy-saving stoves which the women recommend to those who use the charcoal briquettes.* *Furthermore, the biodegradable waste (banana and cassava peels, sorghum dregs from local brew, blood and cow dung from the slaughter house) is used to feed local chicken which the women are also raising to increase household incomes. The waste from the local chicken is used to feed fish in the fish ponds that belong to some of the women.*
Themes	What is the initiative addressing?: poverty, water/wetland/land conservation? *The initiative is reducing pollution of water sources (Katengo wetland and Lake Naludugavu) that flow into Lake Victoria. The baskets, mats and local chicken are sold to increase household incomes. The charcoal briquettes are not yet sold because the amounts produced are just enough for the group members.*
Location	Where is it located (provide a rough indication on a map) *Near the western shores of Lake Victoria, in Rakai district, Uganda*
Indigenous/conventional?	Specify the indigenous aspects of the practice where applicable. If a common practice, what aspects qualify it for best practice? (geographical coverage?, extent of its contribution to poverty eradication or the magnitude of its contribution to addressing a particular environmental concern). *Weaving mats and baskets is an indigenous practice. The use of plastic drinking straws is the new aspect. In the past, mats were made from leaves of different types of palm trees. The use of polythene waste to make crafts reduces the amount of non-biodegradable waste which pollutes the soil and water streams.* *Currently, a total of 60 women are involved in making mats*

and bags. The mats are sold at Sh 5,000 (US $ 3) for a door-mat and 30,000 (US $ 19) for large mats while the bags range from Sh 4,00 to 12,000(US $ 2 to 8) depending on the size of the bag. The practice has the potential to reduce poverty because the raw materials are free. The women collect the materials from the streets and clean them. Some women make up to three large mats per month.

Raising local chicken by free range is an indigenous practice. However, the women have improved the practice by keeping the local chicken in an enclosure and feeding them on special feeds in order to increase the growth rate and prevent losses due to scavengers. A total of 10 households (with a woman who is a RAWESE member) are raising local chicken for sale. These women are also members of the Uganda Local Chicken Association. The stock ranges from 20 to 300 local chicken per household.

In Kyotera town, a mature local cock is sold at Sh 15,000 (US $ 9) compared to Sh 6,000 (US $ 4) for the exotic chicken. Female chicken is Sh 7,000 (US $ 4) for local breeds and Sh 3,500 (US $ 2) for exotic. The local chicken is sold at 6 to 7 months old. One-day old local chicks are sold at Sh 1,300. The women keep chicken at various stages of growth so that they get a continuous income throughout the year.

Stakeholders and beneficiaries

This entry shows who are involved in this project and in what way. If the number of stakeholders is known, this is also specified. *Sixty (60) women are involved in making mats and bags from soda straws. They also make bags from polythene waste. Ten women are raising local chicken for sale. Twenty-two (22) women are involved in making charcoal briquettes. RAWESE is collaborating with a Women's group in Tanzania. They have copied some crafts designs from Tanzania. The Tanzanian group has expressed interest in buying the Ugandan crafts.*

Strengths & weaknesses

The strengths and weaknesses of the practice are indicated. The lessons learnt are valuable for others who are interested in replicating the practice.

Strengths: a) the waste which the women are recycling is free – they are not buying it;
b) the mats and baskets are bought and used locally – the demand for them is still high in Rakai district;
c) local chicken fetches a higher price than exotic chicken and the demand for it is still high;
d) local chicken is more resistant to diseases and it can be raised without spending a lot of money on chemicals.

Weaknesses:
a) It is more time-consuming to make mats and baskets out of recycled waste because the women have to spend time

	sorting and cleaning the raw material.
Potential for replication	The potential for applying all or parts of the practice to other areas. *The practices can easily be replicated by other people and they are already doing so.*
Additional information	Any other relevant information
Period	For how long the practice has been used. *Local chicken – 2005* *Mats and bags – Feb 2006* *Charcoal briquettes - 2005*
Budget and sources of funding	The total budget available for the project or practice. *No capital was required for making mats and baskets from plastic waste. The women started all these recycling activities using material collected from garbage. About $ 150 is needed per household to construct the enclosure for the local chicken and to buy chicks. Most of the required inputs are locally available.*
Contact person	The name of the person who can be contacted for information on the practice. *Mrs Hadijah Sserwanga, Tel. 256-772-333-367*
Organizations involved	Organizations involved in the practice. *Rakai Women's Effort to Save the Environment (RAWESE)*

Best Practice 3

Title and description	***Promoting the Use of ICTs (Information Communication Technology) among the Leaders of Environmental CBOs/NGOs and School Teachers*** *The leaders of CBOs/NGOs are usually among the literate people in rural areas. They occasionally communicate new information to their members during meetings. However, if the leaders are not well-informed then they will keep the organization backward.* *The Networks and Information Exchange Project has trained 60 leaders of environmental CBOs/NGOs in the use of information communication technology so that they can easily access information which they can use to improve the activities of their organizations. Furthermore, the project has given e-mail addresses to the 60 trained leaders and now they can easily communicate with the rest of the world.*

	The majority of the leaders who were trained had never touched a computer before the training. They used to think that computers were supposed to be used by a special kind of people. They did not know the variety of useful information that can be accessed from the internet, and most of them did not know how to use e-mail. *The 60 leaders who were trained are based in the West Nile region of northwest Uganda. This area is more than 400km from the capital city, Kampala. At such a distance, the fastest and cheapest way to share large amounts of information is through internet and e-mail. The trained leaders can access information from internet cafés in the upcountry towns, and then share it with their members.* *In addition to the group leaders, the project has trained over 47 primary school teachers in Introduction to Information Technology, and Basic Internet Navigation Skills. The project has assisted 5 primary schools and 2 secondary schools to develop internet pages which provide information about the schools.*
Themes	What is the initiative addressing?: poverty, water/wetland/land conservation? *The initiative is addressing access to useful information and widening the channels of communication. The information could be used to improve environmental conservation or to increase incomes.*
Location	Where is it located (provide a rough indication on a map) *in north-western Uganda*
Indigenous/conventional?	Specify the indigenous aspects of the practice where applicable. If a common practice, what aspects qualify it for best practice? (geographical coverage?, extent of its contribution to poverty eradication or the magnitude of its contribution to addressing a particular environmental concern). *In rural communities, opinion leaders are usually more knowledgeable than the rest of the people. If they have access to information, they use it to improve the welfare of the communities in which they live. The use of internet and e-mail is not yet widely spread in rural areas. However, opinion leaders normally travel to upcountry towns for various reasons. Internet cafes have been established in many of the upcountry towns in Uganda. If the leaders have no information about environmental issues and how to address them, their organizations will not be very effective. The project has given the leaders an opportunity to learn how to access information from the internet.* *The contribution to environmental conservation and poverty reduction can only be assessed after a number of years.*
Stakeholders and beneficiaries	This entry shows who are involved in this project and in what way. If the number of stakeholders is known, this is also specified.

	A total of 49 men and 11 women representing 30 CBO/NGOs were trained in the use of internet and given e-mail addresses. Forty-seven primary school teachers were trained in Introduction to Information Technology, and Basic Internet Navigation Skills.
Strengths & weaknesses	The strengths and weaknesses of the practice are indicated. These lessons learnt are valuable for others who are interested in replicating the practice. *Strengths: a) the trained leaders and teachers can access useful information on the internet and communicate by e-mail with other people around the world;* *b) the trained leaders can teach their members how to access the internet, and the trained teachers can teach many pupils;* *c) the trained teachers can use the information from the internet to improve environmental education in their schools;* *c) the use of e-mail is one of the fastest and cheapest ways to send large amounts of information (The person sending/receiving the information can use an internet café at a small fee. S/he does not have to own a computer.)* Weaknesses: *a) At the beginning, when the trained person is just learning to type, a lot of time is spent to develop a short e-mail message. The amount of money paid to the internet café is therefore fairly high. This could discourage some of the trained leaders and teachers from using e-mail frequently.*
Potential for replication	The potential for applying all or parts of the practice to other areas. *The practice can easily be replicated in other rural areas where people have access to an internet café.*
Additional information	Any other relevant information *The project coordinator won a Presidential Science Award in 2006 for demystifying the use of computers in rural areas.*
Period	For how long the practice has been used. *One year*
Budget and sources of funding	The total budget available for the project or practice. *The budget for the whole project was $ 25,000*
Contact person	The name of the person who can be contacted for information on the practice. *Mr. Green Mugerwa, Tel. 256-772-272-037*
Organizations involved	Organizations involved in the practice. *Uganda Environmental Education Foundation, and Lots Uganda Limited.*

Best Practice 4

Title and description	**Minani Fruit Tree Project for Land Care and Poverty Reduction** *The project goal is to promote sustainable and profitable land resources management in Minani parish. The project objectives are to promote the growing of short rotation grafted mangoes, to secure local and export markets for fresh mangoes, and to increase household incomes. The project outputs include increased acreage of improved quality and high yielding grafted mango orchards inter-planted with beans and groundnuts, established local and export market chains and outlets for fresh mangoes, and reduced household poverty.* *Through the GEF SGP Project, the Fruits and Tubers Farmers' Group (FTFG) will upscale this budding enterprise to expand acreage from 257 up to 350 acres. This will increase substantially the annual yield of the mango orchards through application of organic pesticides and organic manure, and recruitment of more participating farmers in the parish. At this point, the enterprise will be economically and environmentally sustainable.* *FTFG members have altogether planted 8500 trees of grafted mangoes on 257 acres. The orchards are individually owned and managed but are contiguous, giving an impression of one large-scale plantation under single ownership and management.*
Themes	What is the initiative addressing? Poverty, water/wetland/land conservation? *The initiative is addressing poverty and land degradation issues. The growing of mangoes for sale also meets the need of increasing tree cover in the area. Farmers have constructed trenches to control soil erosion in the mango orchards.*
Location	Where is it located (provide a rough indication on a map) *in Iganga District, Eastern Uganda*
Indigenous/conventional?	Specify the indigenous aspects of the practice where applicable. If a common practice, what aspects qualify it for best practice? (Geographical coverage, extent of its contribution to poverty eradication or the magnitude of its contribution to addressing a particular environmental concern). *In rural communities, farmers have always left mango tree seedlings in their gardens during weeding. In most cases, mango trees were not deliberately planted but they just sprouted from seeds that are thrown away after eating the fruit. The aspect that qualifies this project for best practice is the initiative taken by farmers to plant selected grafted mangoes of a type and quality that is suitable for local markets and export. Instead of growing any type of tree for carbon sequestration and soil conservation, the farmers have chosen a fruit tree which can bear fruits in less than 5 years. The practice is a good example of the economic*

benefits that can be reaped from natural resources management.

Stakeholders and beneficiaries

This entry shows who are involved in this project and in what way. If the number of stakeholders is known, this is also specified.

FTFG through its initial 53 registered and fully paid up farmer members comprising 23 women and 30 men are involved in establishing the mango orchard.

Support for the project and its earlier activities have been received from Enterprise Uganda, International Labor Organization (ILO) Business Market Service Development, National Agricultural Research Organization (NARO) and the National Environment Management Authority (NEMA). NEMA provided funds for purchase of improved grafted mango seedlings that were used to establish 125 acres of mango orchards. Enterprise Uganda provided entrepreneurial skills training to FTFG members; marketed the project on Internet; paid allowances to project agronomic experts; and provided business advisory services to the project. ILO Business Market Service Development funded a market research consultancy to explore local and export market opportunities for fresh mangoes and to draw a ten-year investment plan for the mango project.

Strengths & weaknesses

The strengths and weaknesses of the practice are indicated. These lessons learnt are valuable for others who are interested in replicating the practice.

Strengths:

- *The project falls in two GEF Focal Areas namely: prevention of land degradation and mitigation of climate change. Grafted mango orchards inter-planted with beans and groundnuts will effectively control soil erosion and increase soil fertility and also sequestrate carbon dioxide emissions leading to reductions in the amounts of greenhouse gases and their consequent global warming effect. The mango orchards will for several years be committed and managed specifically for production of fresh mangoes and this implies that carbon dioxide will be continuously fixed and soil continuously stabilized for a very long time.*

- *Increase and diversification of agricultural production and marketing in order to improve food security and generate household incomes from sale of surplus output*
- *The ingenious cooperative land consolidation strategy enables the farmers to overcomes the economic encumbrances associated with land fragmentation and small holder subsistence agricultural production*

Weaknesses:

- *Farmers should have learnt to do their own grafting using the branches they prune as scions so that they produce many seedlings at a low cost.*

Potential for replication

The potential for applying all or parts of the practice to other areas.
The practice can easily be replicated as long as land owners are willing to cooperate and share the same vision.

Additional information

Any other relevant information
.

Period

For how long the practice has been used.
The first trees for this orchard were planted in 2003

Budget and sources of funding

The total budget available for the project or practice.
GEF SGP has given the project a grant worth US $ 38,000.

Contact person

The name of the person who can be contacted for information on the practice. *Mr. Moses Wanume*

Organizations involved

Organizations involved in the practice.
Fruits and Tubers Farmers' Group (*FTFG) in Minani parish, Iganga district, Uganda.*

Best Practice 5

Title and description

Protected Springs for Provision of Safe Water for Domestic Consumption

Safe water is important in reducing water-borne diseases which are common in the Nile basin. In areas where communities have permanent rivers, the local government authorities have often assumed that there is no need to provide alternative sources of water. This normally results in people consuming dirty water from the rivers. However, in areas where natural water springs exist, it is easy to protect the water spring at a cost of less than US $ 800.

Themes

What is the initiative addressing? Poverty, water/wetland/land conservation? *The initiative is addressing water conservation and improvement in health.*

Location

Where is it located (provide a rough indication on a map) *in eastern and western Uganda*

Indigenous/conventional?

Specify the indigenous aspects of the practice where applicable. If a common practice, what aspects qualify it for best practice? (Geographical coverage, extent of its contribution to poverty eradication or the magnitude of its contribution to addressing a particular environmental concern). *Spring protection is a common practice in development projects. It is considered a best practice because*

	community members have acquired the skills of spring protection and it improves the health of the beneficiaries at a very low cost over a long period of time.
Stakeholders and beneficiaries	This entry shows who are involved in this project and in what way. If the number of stakeholders is known, this is also specified. *A single protected water spring can serve over 50 households depending on its location.*
Strengths & weaknesses	The strengths and weaknesses of the practice are indicated. These lessons learnt are valuable for others who are interested in replicating the practice. *Strengths:* • *It is cheaper to prevent the occurrence of water-borne diseases than to treat them.* • *The technology can easily be replicated and maintained by the community members. The Water User Committees take the lead in maintaining the water springs.* • *The spring water can also be used for watering livestock and small scale irrigation during long dry seasons.* Weaknesses: • *The technology is so cheap that the local governments should be able to do it without external funding.*
Potential for replication	The potential for applying all or parts of the practice to other areas. *The practice can easily be replicated as long as the spring is a permanent water source which does not dry up in the dry season.*
Additional information	Any other relevant information
Period	For how long the practice has been used. *Several years!*
Budget and sources of funding	The total budget available for the project or practice. *One protected water spring costs an average of US $ 800.*
Contact person	The name of the person who can be contacted for information on the practice. *Dr. Victor Tugumizemu, Mr. Joseph Mubiru, Mr. James Simba*
Organizations involved	Organizations involved in the practice. *Mahanga Environment Management Organization (MAHEMO), Integrated Rural Community Development Initiatives (IRUCODI), and Open Palm Community Welfare*

Services (COWESER).