United Republic of Tanzania

Ministry of Water

Consultancy Service on Economic Development - Natural Resources Intervention and Investment for the Lake Victoria Basin

Final Report

December 2006

UNITED REPUBLIC OF TANZANIA

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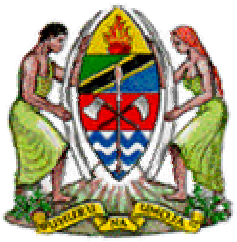

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Table of Contents

List of Figures and Tables

List of Acronyms and Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
BDSs	Business Development Services
BDSPs	Business Development Service Providers
BEST	Business Environment Strengthening for Tanzania
BMU	Beach Management Units
BoT	Bank of Tanzania
CBO	Community Based Organisation
CIDA	Canadian International Development Agency
CD	City Director
CDD	Community-Driven Development
CDMA	Cold Division Multiple Access
CMD	Cassava Mosaic Disease
DC	District Commissioner
DANIDA	Danish International Developent Agency
DED	District Executive Director
DFID	Department for International Development (UK)
DFO	District Fisheries Officer
DSM	Dar es Salaam
EAC	East African Community
EAFCO	East Africa Fuel Company
ECOVIC	The East African Communities' Organisation for Management of Lake Victoria
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMP	Environmental Monitoring Programme
EU	European Union
FINCA	Microcredit agency limited by guarantee and controlled by FINCA International
FTSPs	Financial Technical Service Providers
GDP	Gross Domestic Product
GNP	Gross National Product
GNSS	Global Navigation Satellite System
GSM	Global System for Mobile communication
HIV	Human Immunodeficiency Virus
HPI	Heifer Project International
IFAD	International Fund for Agricultural Development
IFMP	Implementation of the Fisheries Management Programme
ILO	International Labour Organisation
IRA	Institute of Resource Assessment
IUCN	World Conseravtion Union
IUU	Illegal, Unregulated and Unreported
KAP	Knowledge, Attitude and Practice
KATODEA	Kagera Tourism Development Association
KCTF	Kilombero Community Trust Farm
LED	Local Economic Development
LGRP	Local Government Reform Programme
LV	Lake Victoria
LVB	Lake Victoria Basin
LVEMP	Lake Victoria Environmental Management Project
LVFO	Lake Victoria Fisheries Organisation
MCS	Monitoring, Control and Surveillance
MDG	Millennium Development Goals
ME	Micro-enterprise
MEDA	Mennonite Economic Development Associates
MFI	Microfinance Institution
MKUKUTA	swahili acronym for the NSGRP

MKURABITA	Maelezo ya Mpango wa Kurasimisha Rasilimali na Biashara za wanyonge Tanzania
MNRT	Ministry of Natural Resources and Tourism
MoID	Ministry of Infrastructure Development
MOU	Memorandum of Understanding
MRALG	Ministry of Regional and Local Government
MSC	Marine Services Company Limited
NBI	Nile Basin Initiative
NDB	Non-directional Beacon
NEMC	National Environment Management Council
NFFI	Nyegezi Freshwater Fisheries Institute
NGO	Non Governmental Organisation
NSGRP	National Strategy for Growth and Reduction of Poverty
PMM	Precious Metals and Minerals
PRIDE	Promotion of Rural Initiative & Development Enterprises Ltd.
PRSP	Poverty Reduction Strategy Paper
PSO	Private Sector Organisations
PSRP	Public Service Reform Programme
PWC	Price Waterhouse Coopers
RADC	Regional Aquaculture Development Centre
RAS	Regional Administration Secretariat
RC	Regional Commissioner
REDESO	Relief Development Society
RAHCO	Railway Authority Holding Company
RNE	Royal Netherlands Embassy
SACCOS	Savings and Credit Co-Operative Societies
SE	Small Enterprise
SEA	Strategic Environmental Assessment
SEDA	Small Enterprise Development Agency
SIDA	Swedish International Development Cooperation Agency
SIDO	Small Industries Development Organisation
SME	Small and Medium Enterprises
SSMs	Small Scale Miners
STABEX	EU compensatory finance scheme
SUMATRA	Surface and Marine Transport Regulatory Authority
TAA	Tanzania Airport Authority
TAFIRI	Tanzania Fishery Research Institute
TANAPA	Tanzania National Parks Authority
TATEDO	Tanzania Traditional Energy and Environment Organisation
TCRA	Tanzania Communication Regulatory Authority
TCRS	Tanganyika Christian Relief Services
TDA	Transboundary Diagnostic Analyses
TIC	Tanzania Investment Centre
TIRDO	Tanzania Industrial Research and Development Organisation
TOR	Terms of Reference
TOY	Teaching of Trainers
TPA	Tanzania Port Authority
TPDF	Tanzania People’s Defence Force
TRC	Tanzania Railway Corporation
Tsh	Tanzania Shilling (approx. 1,300 = 1 US dollar)
TTB	Tanzania Tourism Board
UARI	Ukiriguru Agricultural Research Institute
UDSM	University of Dar es Salaam
USAID	United States Agency for Interenational Development
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNIDO	United Nations Industry and Development Programme
VIFAFI	Victoria Farming and Fishing Project
WB	World Bank
WEO	Ward Executive Officer
WWF	World Wildlife Fund

Executive Summary

The second phase of the Lake Victoria Environmental Management Project (LVEMP-2) is set to begin in the last quarter of 2007, focusing on socio-economic development, management and research. In each of the three riparian states bordering Lake Victoria, eight consultancies are being undertaken to contribute to the overriding vision of reduced poverty and improvement in the quality of life of the inhabitants of the Lake Victoria Basin (LVB). This final report provides the outcomes of the consultancy to promote environmentally and socially sustainable economic development investments in the LVB by assessing the potential for natural resource interventions and/or investments in the Basin.

The specific objectives were to identify priority investments both the short and long term in the LVB, propose establishment of an investment fund to support sustainable investments emphasising micro-enterprises, assess environmental impact assessment legislation and capacity and propose strategies for harmonization and to use Community Driven Development (CCD) approaches for natural resources management. The natural resource sectors investigated were agriculture, fisheries, mining and eco-tourism. Transport infrastructure was also considered.

Within the present development push by the Government of Tanzania, exemplified by the MKUKUTA programme, the Consultant conducted various assessments in the above eight sectors or themes. Experts for each of these thematic areas travelled to the LVB during July and August 2006 and in total conducted over 60 days of field visits during which 195 individuals were consulted and participated in providing information and ideas on a range of topics.

The report describes an Investment Fund that focuses on two main areas: locality development and enterprise development. The Fund, totalling about US$ 98 million, will be invested in 42 detailed Proposed Activities. Most of these are designed over a five year time-frame, with a detailed budget, milestones or targets, and a procedure for monitoring and evaluation throughout.

Under agriculture, ten activities are proposed that aim at improving the yields and benefits to LVB farmers from a range of agricultural practices. Specifically the proposals include boosting milk production from diary cows and goats, encouraging chicken rearing, improving cassava, sweet potato and cotton farming, promoting maize as a horticultural crop, developing agro-forestry farming, Jatropha forest production and community afforestation, and conducting trials in grain banking.

There are five proposed activities for the fisheries sector. These include promote tilapia farming through the establishment of two regional aquaculture training centres, solar drier demonstration for *dagaaa* (and fruit) with credit facilities, mobile training teams for beach management units focusing on business and environmental issues, the international accreditation of a chemical testing facility the Nyegezi Freshwater Fisheries Institute (Mwanza) and improved infrastructure at selected fish landing sites.

For the mining sector, three proposed activities are described that aim at maximizing profits for small-scale miners. The first is the detailed economic survey of small-scale miners (SSMs) in the LVB, a pre-requisite to wider support, the improvement of equipment and training available to SSM and, a training programme on environmental, social and health awareness.

The transport and infrastructure study concludes with thirteen proposed activities, estimated at over US$ 64 million and mainly aimed at improving infrastructure and safety throughout the LVB to support development of the other sectors. Vehicle washing yards at Musoma, Bukoba (with oil separating units) are proposed, as are the expansion of overnight safe vehicle parking at five sites in LVB, surfacing of the Kamanga - Sengerema road (~ 50 km), the establishment of oil collection centres in Mara, Mwanza and Kagera Regions and improvement to road infrastructure along the Bukoba Port access road (4.6km). For the maritime sector are proposed an overhaul of navigation safety provisions and clearing and dredging of Musoma, Mwanza and Bukoba ports. Air transport proposals include provision of search and rescue equipment for Mwanza airport, installation of Global Positioning (GNSS) approach procedures and of navigational aid equipment and the upgrading of Musoma Airport. A study to maximise railway benefits is included, as is the provision of training to staff of the Tanzania Communication Regulatory Authority (TCRA).

Four proposed activities have been devised to cover the eco-tourism component of the LVB study. The proposals are for training and capacity building for hotel staff, marketing and promotion of Kagera regions and Rubondo Island, support for joint-venture tourism development, and the commissioning of management plans and development of sites of cultural and natural beauty interest.

Environmental legislation was reviewed and local experiences shared with the Consultant, leading to a single recommended activity aimed at boosting local district capacity to implement environmental auditing and monitoring. A similar activity is proposed for increasing the capacity and effectiveness of community–based organisations (CBOs).

The overall aim of the recommended activities within the LVEMP-2 program is to enable micro-entrepreneurs to access financial services in a commercial and sustainable manner. To this end, five activities are proposed that will provide impetus and strength to the micro-finance industry in the LVB. These aim at improving small enterprise access to capital and to business development services (BDSs), to enhance the role of micro-finance institutions (MFIs) to provide services, to strengthen financial intermediaries to support MFIs, and to empowered micro-entrepreneurs to compete.

All the proposed activities are encapsulated in the Investment Fund that is further defined in a detailed logical framework and budget. The report ends with annexes that include the Client’s Terms of Reference, details of the literature that has been consulted, a list of stakeholders that were consulted throughout the study, the latest EIA legislation for Tanzania and a list of stakeholders that participated in the CBO and micro-finance workshop organised by the Consultant in August in Mwanza.

1 Introduction

1.1 Background to the Assignment

The Lake Victoria Environmental Management Project phase two (LVEMP-2) has three priority areas of focus: socio-economic development, management and research. This consultancy addresses socio-economic development and aims to identify and propose strategies for investments and interventions that use the information and capacity developed to date to promote environmentally and socially sustainable growth. This is one of eight consultancies resulting from the lessons learnt from LVEMP-1, together with a vision and strategy framework for management and development of the Lake Victoria Basin (LVB). A similar range of consultancies is being undertaken in the other two Lake bordering countries, Kenya and Uganda.

The Contract between COWI Tanzania Ltd. (hereinafter referred to as the Consultant) and the Permanent Secretary, Ministry of Water (hereinafter referred to as the Client) for the consultancy on Economic Development – Natural Resources Intervention and Investment for the Lake Victoria Basin (Component Seven) was entered into at the end of March 2006. The Terms of Reference for the work is shown in Annex 4.1.

1.2 Progress of the Consultancy

The Inception Phase started in April 2006 with the study of previous reports and LVEMP literature (see Annex 4.2) and a preliminary visit to the LVB in May to meet with local stakeholders, government representatives, staff of research institutions and NGOs. The Team Leader also made visits to Dar es Salaam-based institutions (e.g. LVEMP facilities and Ministry of Water, NBI, WWF) and to the EAC Secretariat in Arusha, also in May.

During the Inception Phase, over 50 individuals from 20 institutions were met (see Annex 4.3) to discuss issues related to sustainable exploitation of natural resources as well as infrastructure issues, financing mechanisms, tourism potential and on failed and successful pilot projects and case studies. At a Stakeholder Workshop in Mwanza in late June, the Inception Report was presented and shortly after approved.

1.3 Field Visits, Analysis and Local Participation

The Main Phase began with field visits by most of the experts in July 2006 and early August 2006, followed by a presentation of the mid-term Progress Report at a second Stakeholder Workshop in early August, also in Mwanza.

Field visits were made by the team of experts, undertaking their tasks individually in some cases, using the methods that best suit their needs and coordinated by the Team Leader. Compilation of findings followed, with subsequent development of recommendations for interventions and investments, aimed at specific sites and target groups. In some cases these take the form, at least in their initial phases, of pilot projects or follow-on projects of existing interventions.

Table 1 Main Phase Team Composition

Position	Name
Team Leader and Eco-tourism expert	Dr. Matthew Richmond
Fisheries Expert	Martin Esseen
Agricultural Expert	Dr. Magayane Machibya
Financial Expert	Felician Ifunya
Legal Expert	Dr. Palamagambo M. Kabudi
Mining Expert	Mark Stanley
Transport Expert	Eivald Skau and Simon Kabwebwe
Social Development Expert	Optatus B. Likwelile

Field visits were facilitated by local contacts and data gathering was mainly achieved through key informants and focus group discussions. The preliminary review of documents drawn attention to issues that the Consultants were able to verify in the field and to consolidate local knowledge and determine the current situation accurately. The field studies also included the use of checklists and pre-organized questionnaires. Further details of methodology are included in the background to each of the main thematic sections (3.2 to 3.9). Throughout the consultancy, the Consultants were aware of the importance of gender issues as a cross-cutting issue affecting all parts of the analyses.

2 Economy and Climate in Tanzania

Before describing the results of the diverse studies undertaken during this consultancy, the Consultant believes it is important to briefly describe the socio-economic, political and climactic conditions of Tanzania in general and the LVB in particular, over the timeframe of this work, notably during the first eight months of 2006. An appreciation of the situation present in the country at the time of the work will help understand the reasoning behind some of the proposed activities and why other activities have not been included.

Tanzania is one of the poorest countries in the world, with an average per capita income of about US$ 340 and life expectancy of 51 years. With the support of Development Partners and the World Bank, Tanzania has embarked on an ambitious poverty reduction agenda, defined in the Poverty Reduction Strategy Paper (PRSP), with the second PRSP finalised in early 2005. The latter, termed the National Strategy for Growth and Reduction of Poverty (NSGRP) is locally known MKUKUTA in the Swahili acronym. Another significant effort is also taking place whereby at the level of governance, Tanzania is implementing Public Service Reform Programme (PSRP) and the Local Government Reform Programme (LGRP). The two reform programmes are relevant in ensuring effective regulatory framework is put in place in the country. Tanzania is implementing devolution by decentralisation under the LGRP.

Under MKUKUTA, the focus is economic growth centered on agriculture and rural development. The goals also include further strengthening of the business environment thus boosting private sector growth, which in turn should help diversify exports. Under the LGRP, local governments have to produce a mix of local public goods and to facilitate or enable the other actors, communities, enterprises, workers and NGO to participate and contribute to economical development. Accordingly, WB lending to the sector of human development is 29% of the total so far lent to Tanzania.

The Consultancy was undertaken at a time when initiatives under the MKUKUTA began in earnest. During the first half of 2006, the Tanzanian press included almost daily announcements of new programmes and calls or invitations to tender on diverse development initiatives across the country. This impressive spate of announcement, mostly from government departments challenged the Consultants to keep abreast of developments in some sectors.

Private sector participation was strongly encouraged and donor and foreign bank commitment continued to strengthen during 2005-2006.

The consultancy began while the newly elected Fourth Phase Government of President J.M. Kikwete was settling into place. Responding to the particularly dry 2005 and a failure of electrical power due to reduced outputs from hydro-electric sources and increasing costs of fuel, the Government strongly advocated the need for initiatives aimed at improvement of the lives of rural Tanzanian. Agriculture was the sector most targeted through a major agrarian reform programme due to begin imminently and of current World Bank lending to Tanzania, 13% is allocated to this sector. The need to re-afforest hills and mountain slopes and to protect water basins and river systems was strongly voiced by both the President and Prime Minister Edward Lowasa during early 2006.

Infrastructure was possibly the second area most addressed after installation of the new government, while the mining sector received much attention, notably with respect to clarification on the economic benefits to the country of multi-national investors and on conflicts over rights to minerals, between small-scale miners and large-scale operations.

Aspects of LV fisheries and the general economic, social and environmental status of the lakeshores in Tanzania came under vivid and controversial scrutiny in the 2005 documentary 'Darwin's Nightmare'. During the early 2006 parliamentary sessions, Ministers were shown the documentary, generating publication frenzy in the local press, with numerous articles condemning both film-maker and film. Debate has raged since then and one outcome may be closer attention to some of the issues facing the Lake Zone. The establishment of a micro-finance bank run by LV fishermen was the most recent announcement.

Hydro-electricity supplies during the first half of 2006 fell dramatically and daily power shortages affected most parts of the country. Much of the LVB on the Tanzania's portion does not have electricity and the impact is only strongly felt in the more urban centres, especially Musoma and Mwanza. Bukoba fortunately relies on power from Uganda and did not suffer reductions that continue to plague others part of Tanzania.

Finally, donors are recognizing that financial services for the poor, or microfinance, can be a powerful tool to fight poverty and enterprise development, contributing to achievement of the Millennium Development Goals (MDGs) by 2015. All these recent developments have been considered throughout this consultancy.

3 Assessments and Recommendations

This chapter is divided into eleven sections, corresponding roughly to the specific tasks/activities in the ToRs (see Annex 4.1). In order to set the scene for the remainder of this report, the first section (3.1) describes the Investment Fund, a significant output of the Consultancy that concerns all the thematic components. This section also describes the implementation strategy for the project. The six sections that follow (3.2 to 3.7) mirror the first six activities of the ToRs, relating to natural resources, infrastructure and micro-finance. The outcome of the assessments of each section concludes with a presentation of 'proposed activities' for LVEMP-2. A total of 42 activities are proposed. Some of the proposed activities are straightforward interventions; while others are forms of using funds for investments in the micro-finance sector while still others are a combination of intervention leading to investment. The majority of the proposed activities are designed with a maximum of five-year duration and are budgeted accordingly; however flexibility is incorporated into the design of each activity to allow for extension or earlier termination. Each activity includes milestones or targets, a procedure for monitoring and evaluation throughout and a summary box of main features.

Sections 3.8 through 3.11 describe environmental legislation, community participation, and an implementation framework for the project with an overall budget. The last section addresses ToRs (vii) and (viii) that require consolidation of the three national reports into a regional document.

3.1 Investment Fund, Project Implementation and Budget

DESCRIPTION OF THE INVESTMENT FUND

The Fund is based on two main branches of activities: locality development and enterprise development, each divided into further components as shown in Figure 1, page 15. The following sections put into perspectives the proposed components.

LOCALITY DEVELOPMENT

Provision of the necessary infrastructure is one of the primal roles of government to attract investments. Locality development corresponds to building up physical infrastructure and economic and social overhead capital in a way that they generate a balanced development of all land uses, resolve land use conflicts, minimising pollution and maximising positive externalities. The intervention therefore enhances local quality of life and competitiveness of local economic activities. Locality development may be in several forms, however we propose; provision of economical infrastructure; the sustainable utilisation of natural resources and locality marketing as the key elements of locality development. The activities under this component have long-term benefits. The terms and approaches are described below:

Provision of Economic Infrastructure - Land is more attractive to potential users when it is developed for turn-key operations. This may be in the form of *infrastructure provision* like provision of water, sewer, electricity, street lighting, access and feeder roads and sidewalks. It may be built further *in industrial estates/parks or shell buildings* where multi purpose industrial buildings are constructed and finished as per clients' specifications.

Sustainable Utilisation of Natural Resources - Peripheral rural areas in the LVB are endowed with sources of competitive advantages based mostly on the combination of natural resources and location. Competitive advantages can be increased through the introduction of technological changes in the productive process and through the building of productive infrastructure. These investments require a substantial amount of investment but over the long-term will produce profitable returns.

Utilisation of the natural resources proposed is centred on agriculture modernisation, adding value to fish production without affecting the environment (solar drying vs. fish smoking) and developing the markets of the mining sector. In agriculture modernisation for example, the development objective is to increase the productivity of land and improving the farmers' income. In doing so, and through the Investment Fund initiatives land security issues, access to credit, extension and marketing will also be prioritised.

Locality Marketing - Locality marketing is similar to marketing of products or services. It is target marketing with a certain purpose, for example new firms to set up business, target new residents to build homes and increase property tax base; target consumers, by offering commercial, tourist or cultural attractions, target investors who are to undertake development, etc. The focus will be to market eco-tourism potential in Kagera region and Rubondo Island (Geita District, Mwanza region).

ENTERPRISE DEVELOPMENT

This component of the Investment Funds aims to develop the economic base of the area so as to create an affordable micro-finance industry. In this case

LVEMP-2 sees itself contributing to activities in the LVB that involve exporting goods and services outside the area. Looking at a territorial area as a district, the destination of these exports may be outside the district, region, nation, within East Africa and thus utilising the potentials of the East African Custom Union or abroad. The purpose of this component is to support growth of enterprises into specialised clusters as it is argued that clustering and socialisation accrue to local producers, which arises from the geographical concentration, such as specialised labour and inputs and knowledge spill over. Enterprises in LVB also face a repressive business environment (lack of credit facilities, business development services and hostile administrative, legal and regulatory policies). The Consultant proposes the enterprise development component to consist of elements that help create a favourable business environment; business development services, start-up and venture capital access and group marketing. The following sections explain the proposed elements:

Improvement of the Business Environment - The intervention will work closely with the national Business Environment Strengthening for Tanzania (BEST) programme, study and propose reforms to by-laws that are distracting investors. The Component 8 of the LVEMP bridging phase consultancies, undertaken by Price Waterhouse Coopers (PWC) is especially focus on this area of economic development. The following instruments are planned and are as below:

One stop-centre – One stop centres facilitate entrepreneurs to access all the information regarding regulations and conditions governing investment from one place. The procedure eliminates costs, frustrations of going to many places that attract rent seeking. Through LVEMP-2, District Private Sector Organisations will collect and collate information on the local labour market, local development indicators, availability of land, administrative and regulatory conditions guiding investments, support and incentives schemes available for businesses wanting to start or expand. A one stop centre can also provide information on technology sourcing, provision of market studies or linking entrepreneurs to business development providers.

Incubation Centres - To compete in the global setting, exporting or regaining the domestic market from imports, initiatives have to be made to either develop the indigenous or adapt/adopt technologies from elsewhere. The initiative may cooperate with the Entrepreneurship Centre/Computer Centre of the University of Dar es Salaam aiming at adopting technologies that will enhance competitiveness and develop information technology investments.

Start Up and Venture Capital - In general, micro and small business are not trusted by banks because they lack collateral. Although some NGOs such as PRIDE and SEDA have designed products for the micro enterprise but their outreach is insignificant compared to the demand. The intervention will cooperate with MKURABITA, Financial Deepening Trust, NGOs, and Banks and support the creation of local investment programmes that can raise risk capital for small businesses. Through this intervention MFIs will apply for micro finance funds and efforts to promote District/Regional Community Banks will be promoted.

Group Marketing Systems - The system will support Small and Micro Enterprises to overcome the problem of competition due to their limited scale of production, markets and the presence of imported goods. Possibilities of exploring export markets through clusters are also envisaged.

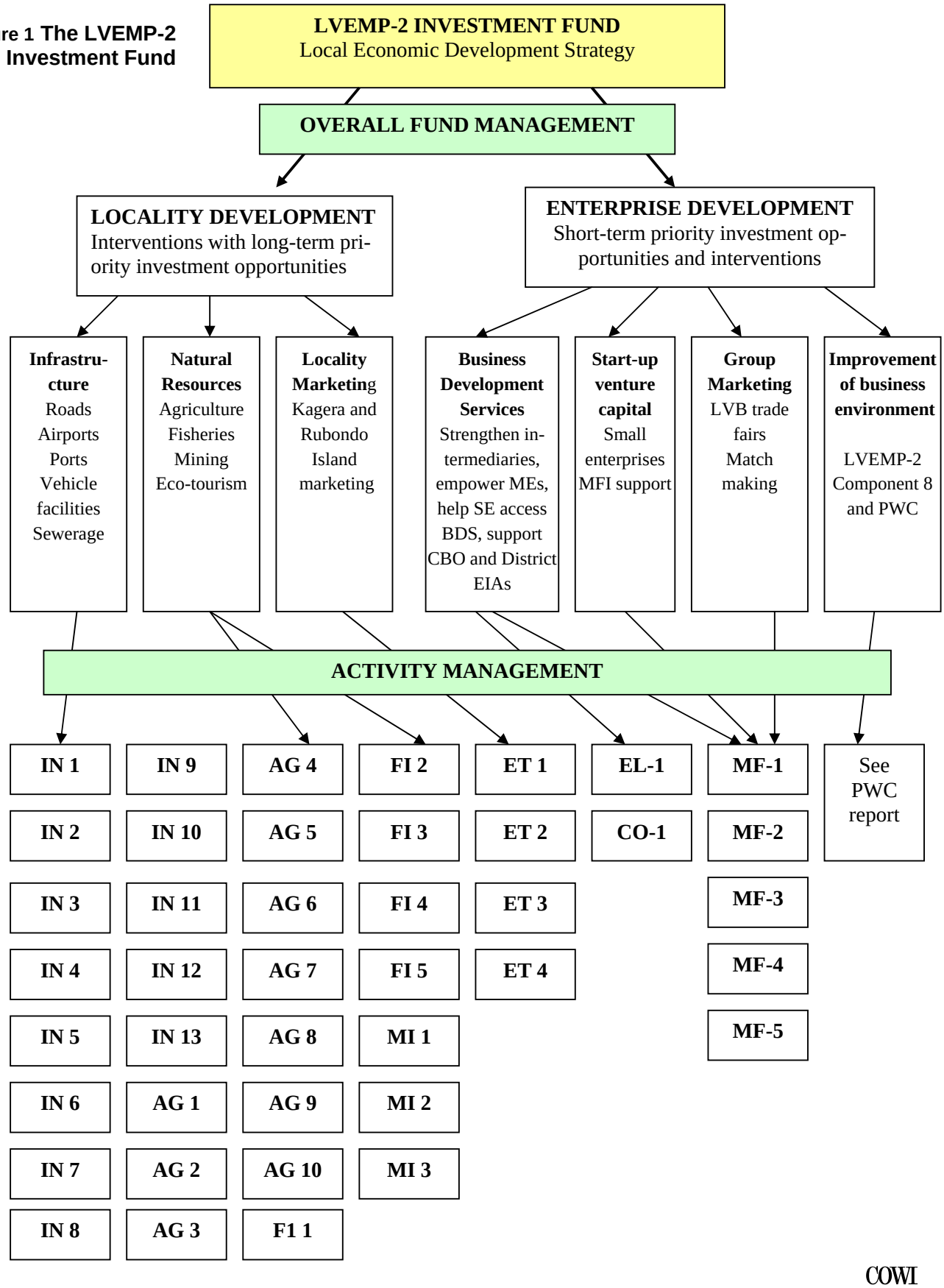
Business Development Services - BDS include training, consultancy and advisory service, marketing assistance, information, technology development and transfer, business linkage and promotion. The element is planned to improve the performance of small and micro enterprise to achieve higher economic growth, reduce poverty, and meet social objectives. The expectation is that with appropriate product design, delivery and payment mechanisms, BDS can be provided on a commercial basis even for lowest-income segment of the entrepreneurial small enterprise sector.

Actors in Local Economic Development (LED)

There are three actors crucial to the Investment Fund: the Local Government, mainly responsible for convening all the actors, the private sector who is the engine of economic development and civil society competent to mobilise the community. For effective implementation of the Investment Fund, local government is charged to perform the following activities: provision of infrastructure and services; management of the whole territory; convening of all actors and facilitation of economic activities. The private sector is the *economic engine* in the system, the main source of employment and an agent in restructuring the local economy and keeping it competitive. Firms may also donate to community, train and engage in employment schemes as a part of their social responsibility. Private sector organisation (Chambers of Commerce) support enterprise growth and formation and banks and other financial intermediaries provide financial services to firms, the community and local government. The third actor in implementation of the Investment Fund and hence development of the LVB is the civic society. These organisations represent a diverse mix from those with broad agendas on political, health (e.g. HIV-AIDS) and social rights and those organisations focused on economic activities. The latter have the greatest potential role in LED initiatives. CBOs and NGOs play a vital role in providing specialist support services to communities in rural areas. They have a potential of mobilising voluntary labour in road and classroom construction.

Under the Fourth Phase Government, local governments have to produce a mix of local public goods and to facilitate or enable the other actors, communities, enterprises, workers and NGOs to participate and contribute to economical development. We see this as an opportunity for LVEMP-2 and propose that LVEMP work to improve and develop local governments as sources of competitive advantages.

Figure 1 The LVEMP-2 Investment Fund



FUND IMPLEMENTATION

The Investment Fund as envisaged here is comprised of the two main branches of activities described above, under a central or overall management and a secondary management for each activity that is responsible for implementation.

OVERALL FUND MANAGEMENT

The Consultant views this as a critical task for the success of the Investment Fund, for the management of the sum of almost US$ 86 million and envisages the task being advertised for tender from suitable private sector companies to apply for the role as Fund Manager. Alternatively, the EAC may require that the management be conducted by a combination of private and public institutions, perhaps coordinated by a committee appointed by the Ministry of Finance. The final modality for the management of the fund requires input from the funding agent (World Bank) and the Client.

ACTIVITY MANAGEMENT AND IMPLEMENTATION

The responsibility for managing each of the 42 proposed activities may be undertaken by a sector within the Overall Management (see above) or by independent entities for each activity (e.g. different company, institution or committee). Whatever the final arrangement, implementation of each activity should address the following five stages:

1. Selection of Activities Managers
The implementation of the proposed activities will in most cases be expected to result in calls for expressions of interest by the government to the private sector requesting proposals to develop, implement and support each activity. Activity Managers may include public institutions, local or foreign private consultancy firms, or a combination of all three, though it is expected that most will be locally sourced. The various consultancies that will result from the proposed activities should undergo competitive tendering as per the normal World Bank procedures. Proponents should be carefully assessed on the two main aspects:

a) Proven technical ability to implement the proposed activities.
b) Ability to adhere to the allocated budget.

The budgets and timeframes described for each of the 42 proposed activities (and described in the remainder of this report) are by necessity ‘tentative’ and it is expected that activities be closely monitored and evaluated to allow for change where necessary, throughout the life of the activity.

2. Preliminary verification
There is a strong possibility that some of the 42 proposed activates described in the following section will be implemented in the coming two years. The first task of the Activity Managers is to re-visit the proposed activity and determine the continued relevance of the activity, with respect to other developments (social, economic and environmental) that may have taken place in

the intervening period, whether the potential partners remain viable and if the proposed budget is still appropriate.

3. Environmental and social impacts of proposed activities
The proposed activities were carefully selected by the experts mindful of the potential environmental and social impacts of each. The selection does not include any activities that are likely to cause any negative impact to either the environment or the social fabric of the local communities. Nevertheless, as a matter of course, and in keeping with WB financing policy, when each proposed activity is initiated, during the final adjustments and preparations, as well as during implementation, social and environmental impact assessment is recommended, at the very least to the level required in the Environmental Registration Form EA 1 provided by NEMC. Furthermore, Activity Managers should be aware of the need to involve minority groups during final project design, focusing particularly on gender issues and HIV-AIDS.

4. Project partners and collaborators
Activities should ensure strong local ownership and involvement, in order to ensure continued uptake and adoption, and beneficial impacts beyond the life of the activity. The LVEMP has an extensive network of project collaborators, target institutions, and partner organizations and activities should build on these partnerships, and supplement where appropriate, in order to enhance local capacity and transfer ownership to target institutions or communities.

Uptake promotion projects are likely to require an inter-disciplinary team, comprising a range of skills including education and communications specialists, technical and social scientists.

5. Monitoring and Evaluation
Many programmes fail to *measure* the uptake of programme outputs, and their resulting contributions towards development objectives. Monitoring the uptake of project outputs is of critical importance throughout the life of any project or activity, and monitoring indicators are included throughout the log-frame (see section 3.10). This component should be included in final budget reviews at approximately 10% of the total estimated costs for each intervention and investment.

As well as monitoring and evaluating uptake, LVEMP-2 should later be able to assess the *impact* that projects have made towards achieving their developmental objective of improving the livelihoods of poor people. Whilst this is hard to measure, and is likely to occur principally after a project has been completed, Activity Managers should consider what information may be collected in order to demonstrate impact, and record any evidence of developmental impact where it does occur within projects. Training events should be monitored through training assessments and a baseline survey needs to be conducted to establish changes in income of the participating entrepreneurs and availability of market information.

FUND BUDGET

The proposed budget for the LVEMP-2 investment and interventions in natural resources, of about US$ 98 million, is summarised in Table 2. Each proposed activity is described in detail in the chapters that follow and the budgets allocated to each are detailed in Table 3.

Table 2 Budget summary for proposed activities

Topic	Amount (US$)
Agriculture	10,800,000
Fisheries	5,615,000
Mining	825,000
Infrastructure	64,000,000
Eco-tourism	2,500,000
Micro-finance	14,000,000
Environmental legislation	300,000
Community-based organisations	140,000
Total	**98,070,000**

As expected, the component on infrastructure has been allocated the largest proportion, about 65% of the overall fund at US$ 64 million, of which a large part is taken up in road construction, improvement to the navigation of LV and in its airport facilities. Micro-finance is allocated about 14% of the overall budget, with much of that being made available to the end target, the micro-enterprises and their intermediaries. Investments in the natural resources of the LVB (agriculture, fisheries, mining and eco-tourism) represent about 22% of the total Fund, with half of that being allocated to the agriculture sector and only a small proportion towards mining, partly because of the need for more in-depth studies of the sector before appropriate interventions can be designed. Investments in environmental legislation and community-based organisations are aimed at improving capacity in those sectors and as a result the relatively small amount of funds required, mainly for training, represent less than 1 % of the total Fund.

Table 3 Proposed investments, interventions and budget

Code	Activities	Budget US$
AG 1	Milk production from diary cow and goats	2,000,000
AG 2	Chicken rearing	500,000
AG 3	Improved cassava farming	1,500,000
AG 4	Improved sweet potato farming	800,000
AG 5	Boost to cotton farming	600,000
AG 6	Maize as horticultural crop	300,000
AG 7	Agro forestry farming	2,000,000
AG 8	Grain banking	500,000
AG 9	Jatropha production	600,000
AG10	Community afforestation programme	2,000,000
	Agriculture total	10,800,000
FI 1	Solar drier demonstration and credit facility	15,000
FI 2	Mobile training units for BMU business & environmental mgmt training	1,100,000
FI 3	Creation of two Regional Aquaculture Demonstration Centres (RADCs)	2,000,000
FI 4	Internationally accredited chemical testing facility NFFI, Mwanza	500,000
FI 5	Improved infrastructure at selected fish landing sites	2,000,000
	Fisheries total	5,615,000
MI 1	Detailed economic survey of SSMs	300,000
MI 2	Improvement of equipment and training available to SSM	325,000
MI 3	Improvement of environmental, social and health awareness	200,000
	Mining total	825,000
IN 1	Vehicle washing yard at Musoma, Bukoba (with oil separating units)	1,000,000
IN 2	Expansion of overnight safe vehicle parking at five sites in LVB	1,000,000
IN 3	Kamanga - Sengerema road (~ 50 km)	20,000,000
IN 4	Establishment of oil collection centres in Mara, Mwanza and Kagera Regions	3,000,000
IN 5	Road infrastructure Bukoba Port access (4.6km)	2,000,000
IN 6	Overhaul of navigation safety provisions	11,700,000
IN 7	Clearing and dredging of Musoma, Mwanza and Bukoba ports	4,700,000
IN 8	Provision of search and rescue equipment for Mwanza airport	12,000,000
IN 9	Provision of Global Positioning (GNSS) approach procedures	200,000
IN 10	Provision of Navigational Aid Equipment	100,000
IN 11	Upgrading of Musoma Airport	8,000,000
IN 12	Study to maximise railway benefits	50,000
IN 13	Provision of training to TCRA staff	250,000
	Infrastructure total	64,000,000
ET 1	Training and capacity building for hotel staff	1,000,000
ET 2	Marketing and promotion of Kagera and Rubondo Island	500,000
ET 3	Support for joint-venture tourism development	500,000
ET 4	Commissioning of management plans and development of sites of interest	500,000
	Eco-tourism total	2,500,000
MF 1	Small enterprise access to capital	3,500,000
MF 2	Small enterprise access to Business Development Services	1,500,000
MF 3	Enhance MFIs to provide services	7,000,000
MF 4	Strengthen financial intermediaries to support MFIs	1,000,000
MF 5	Empowering micro-entrepreneurs to compete	1,000,000
	Micro-finance total	14,000,000
EL 1	Capacity building for district environmental and social assessment staff	300,000
CO 1	District CBO special training unit	140,000
	Total US$	**98,070,000**

3.2 Agriculture

Main objective: to identify priority agricultural investments (both short and long term) in the LVB.

Progress

Following the Inception Phase, desk studies were conducted to collect secondary data and site visits to Kwimba, Ngudu, Magu and Misungwi districts served the purpose to collect primary data to gain an overview of agricultural practices and economy of the LVB, of constraints in the agricultural sector, crop productivity, market and price fluctuations, storage and packaging. These four districts were selected because all are relatively close to Mwanza, thus facilitating logistics, particularly time and travel.

BACKGROUND

A range of climatic/soil and water regimes, hence different degrees of fertility and productivity are present in these areas. For example, Kwimba/Ngudu areas are known to be highly productive and supporting a large variety of agriculture practices and livestock, in contrast to Magu district which is a very dry area with lower soil fertility. Misungwi district was included because it is also the location of the Ukiriguru Agricultural Research Institute (UARI), with whom the Consultant worked closely.

Local experts accompanied the Consultant and assisted in field tasks and data collection to incorporate the views of stakeholders. Existing opportunities for marketing agricultural products were identified and explored, focusing on the community/household level. Agricultural and forest products, as well as their processing, packaging and potential markets were discussed with stakeholders met (see Annex 4.4). A market opportunities study was conducted and its outputs analysed and incorporated into the recommendations of this chapter.

Agricultural potential in the Lake Victoria Basin

Agriculture in the LVB refers to crop and livestock production. Both sectors are considered equally important as a source of livelihood of residents of the LVB. Crop production includes a range of crop varieties, both cash and food crops such as maize, rice, banana, coffee, tea, sisal, cassava, sweet potatoes, cotton, sorghum, millet, pulse, beans, groundnuts and range of fruits and vegetables. The analysis of primary and secondary data collected through this consultancy shows that the actual crop production (yield) is well below of what could be produced given the good agricultural practices prevailing in the study area.

Table 4 below presents the rate of efficiency for a range of crops expressed as a percentage of current over potential production as obtained from farm trials performed through research. As the table shows the mean efficiency is 35% with the highest rate (50%) for cotton and the lowest (8%) for coffee.

Table 4 Current crop production (T/ha) and potential production

Crop Type	Current Production (T/ha)	Potential production (T/ha)	Efficiency %
Maize	2.25	5.75	39
Rice	2.10	5.50	38
Banana	9.00	30.00	30
Cassava	6.00	20.00	30
Sweet Potatoes	5.50	15.00	37
Cotton	3.50	7.00	50
Sorghum	1.80	5.00	36
Millet	1.50	4.50	33
Pulse	1.00	3.00	33
Beans	1.00	3.50	29
Groundnuts	1.20	4.00	30
Coffee	0.15	2.00	8
	Mean production efficiency		**35**

Sources: MAF (2006) and Ngendello *et al.* (2000).

Ngendello *et al*, 2000 recommend that the rate of efficiency of most crops in the LVB could be increased through agricultural management practices such as:

- Timely planting and weeding;
- Timely water supply (through irrigation);
- Fertility improvement through mechanical weeding and manual application which is available in abundance in the lake zone;
- Optimum plant density;
- Improved seeds;
- Further fertility improvement through second weeding;
- Pest control.

Factors constraining agricultural development in the LVB

The agricultural sector in the LVB is faced by many constraints. Most of them could potentially be overcome through interventions at various levels throughout the production and supply chain, the promotion of agri-business. The enthusiasm of the primary producers and SMEs in the area are also conducive factors.

Market and price fluctuation

The return to farmers (primary producers) is reduced by the market situation which gives low prices to farmers (especially the poorest ones who cannot access the inter-regional markets). Data on crop price fluctuations across seasons in the study area was collected through interviews, surveys, oral histories and personal observations in both interregional and local markets through out the study period. Data obtained was triangulated with village and district sale/markets records available at the district headquarters. This allowed the analysis of market price fluctuations in the study area.

The "normal crop price" is defined by both farmers and district officials as the prevailing price at the point in time when all farmers have harvested their crops and almost every farmer is still having food to eat in stock. During this time there is low risk of any influencing factor that could inflate the prices. Reportedly this period is in June/July every year regardless of whether the year is dry or wet. It should however be noted that prices are higher during a dry year when there is less harvest compared to a wet year with high harvest.

Poor farmers in the study area sell their harvest during June/July to meet other needs that demand cash (e.g. clothes, salts, sugar, and medicines). This demonstrates that the daily needs of poor farmers in the study area totally depend on their produces (crop + livestock). Richer farmers/traders are able to keep enough cash during this period of the season ready to purchase crops at lower prices. During the "normal price period" wealthy farmers buy crops at a cheaper price and sell the produce later in the season at a much higher price. Some of the produce is later traded to the poorer farmers either in exchange for their labour or for cash at two or three times the normal price. Because this price is very high to the poor, most of them work for the wealthier owners (mainly in the farm) for almost half of the season just to get food. While the crops sold by the poorer farmers during June/July are between 60% and 100% of the normal price, wealthier farmers can reportedly sell their stocked crops between January and April, with up to 80% profit compared to the normal price within the Lake zone.

The produce accrues further profit when sold to inter-regional traders (especially in Dar es Salaam). For example, the profit made by the traders who buy rice in the Lake zone and sell it at Dar es Salaam markets, can reportedly be over 25%.

The cumulative profit by a trader able to stock (80%) and trade inter-regional (25%) over a poor farmer in the LVB is consequently in the range of 100%. This significant difference in return has aggravated poverty among the already poor farmers in the LVB.

Livestock – crop relationship

The situation of price fluctuation observed in crop production is similar in the livestock sector. Available data shows that livestock prices are highest between May – September but lower during December through March with the lowest in February. This situation has led to livestock stocking in the area. The livestock trader's behaviour is similar to that of crop traders - they buy livestock during the month of December through March and sell them later in the season when the prices are higher.

Recently the Regional Commissioner for Mara noted that about 55,000 heads of cattle, 16,000 goats and 4,000 sheep were either traded or slaughtered between 2004-2005. He was also quoted as admitting that the increased number of livestock was a threat to the environment as they were exceeding the carrying capacity of the region, and that measures were underway to change the trend of livestock keeping and to reduce their number.

When the trend of crop price fluctuation is compared to that of livestock price fluctuation, an adverse relationship is established. This means that when prices of crops are higher, the prices of livestock are low and vice versa. The implication of this situation to poor communities in the LVB is that both of their main sources of livelihood, Livestock and Crop produce, are purchased from them at a market low price.

Summary

The results of this study show that the existing agricultural potential of the LVB is not exploited to benefit the poorer communities. The productivity of both crops and livestock are still low (about 30% of what could actually be produced based on research). Low productivity in both crop and livestock are caused by poor technologies applied and a lack of investment capital in agriculture and agri-business. The latter leads to a lack of processing of both crop and livestock produce at community and beyond the community level seeking to target the inter-regional and international market.

Crop and livestock prices fluctuate across seasons in favour of wealthier farmers, who have the opportunity to stock during low price season and sell during high price seasons. Due to their immediate food and cash needs, poorer farmers fail to take advantage of seasonality of supply and demand. Additional returns can be earned by those who can access inter-regional markets to trade crops and livestock. Consequently, wealthy farmers, processors, traders and transporters benefit more than poorer farmers. Other contributing factors to the disadvantaged situation of poorer farmers is the lack of farmers' organisation and poor access to reliable market information.

There are many opportunities for agricultural intervention and investment in the LVB. These opportunities are suitable for the government, private sector, development partnerships and individuals. The intervention/investments could be both large scale and small scale as described in the following section.

PROPOSED ACTIVITIES

AG 1 – Milk production from diary cows and goats

Current status

Statistics reviewed during this study show that the LVB is the zone with highest numbers of livestock (cattle, goats, sheep, pigs and chicken) in Tanzania. Livestock keeping is an activities well perceived by the LVB population. It has been confirmed through this study that dairy farming performs better than local cattle keeping in terms of production, land use, environmental management etc.

Dairy farming is already under development in the area in almost sufficient numbers. However present constraints such as limited availability of diary cows,

lack of capacity/knowledge to handle diary cows, poor transportation infrastructure and lack of market information for the livestock products such as milk still require additional intervention and investments.

Dairy farming requires assets such as labour force and capital. In contrast goat rearing is reportedly a medium size enterprise that can be managed even by people without these assets, such as commonly elders, widows and orphans. It can hence potentially play a role in the contribution to poverty reduction. Goat rearing is a well perceived enterprise in the LVB but it is presently not widely spread. The majority of people still stick to a traditional local breed which is reportedly less productive, e.g. they do not give milk, are small in size and give birth to only one offspring at a time. Interventions and investments as discussed below could improve the situation.

Concept and beneficiaries

There exists an opportunity to increase peoples' income and nutritional situation through increased livestock productivity. This can be achieved through the use of improved breeds and capacity building of local communities in the management of diary cows and goats.

Through cross breeding of local goats with dairy goats, a breed resistant to diseases, supplying improved yield (high milk production, meat, number of offspring per birth) and higher feed conversion factor can be derived. The male goat can be available at only Tsh 60,000.

Since for a poor farmer even this can be a substantive among of capital, in some areas in Tanzania, e.g. Tanga, dairy farming projects have been developed with a micro-credit facility. Various concepts are possible, for example, the first cow/goat can be purchased with a loan, which is then paid off by selling an off spring. The primary beneficiaries are poor communities, elders, women and youth.

Proposed activities

To develop cross-breeding of available diary animals (cows and goats) to improve local animals and create appropriate management practices (feeding and health). At the same time, to increase access to market information and invest in artificial insemination kits. The agro-processing of milk products (cheese and margarine) and milk collection infrastructure (collection points and cold mobile) should be improved while fodder and agro-veterinary inputs are boosted with training of their proper use.

Indicative budget

The indicative budget is US$ 500,000 per district, with an initial implementation phase to include four districts (to be selected).

Monitoring and evaluation
Monitoring of the activity should be undertaken by an appointed specialist, ideally a UARI employee. Records of the amount of milk produced and purchased, and input and output prices should be taken. Assessments of the improvement in quality of cows and goats should be undertaken by veterinary officers.

Records should further be kept by the farmer organisations of the number of interested farmers who approach them for further information and, if known, the number of actual purchases made locally. Financial and credit organisations associated with the project should submit details of numbers of loans made for purchase of dairy cows and goats and items of equipment and loan pay-back periods.

Finally to determine the contribution of the project to poverty reduction, a household survey with core wealth indicators should be taken from among the participants at the beginning of the project to set a baseline. The same survey can be repeated two and five years later to compare against the baseline. Such a survey should be outsourced to a specialist from a research institution, consulting firm or NGO.

Potential partners
District livestock officers, Heifer International, UARI, Mabuki diary Farm, Mara milk industry and veterinary business persons.

Timeframe: AG 1 – Milk production from diary cows and goats

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design and planning																				
Design of monitoring programme																				
Staff recruitment and training																				
Selection of project sites and formation of farmer groups																				
Baseline survey																				
Design of educational materials and trials trainings to farmer groups																				
Setting up micro-credit facility																				
Purchase of livestock																				
Training on cross breeding of available animals in test-sites																				
Training on management practices																				
Increase access to market information																				
Various Investments																				
Continuous monitoring and surveys (after year 2 and 5)																				
Evaluation																				

Summary

AG 1 – Milk production from diary cows and goats

Collaborators: District livestock officers, Heifer International, UARI, Mabuki diary Farm, Mara milk industry and veterinary business persons.
Objectives: Increase milk productivity through use of improved breeding and capacity building of local communities on management of diary cows and goats.
Beneficiaries: Poor communities, elders, women and youth.

Budget (indicative): US$ 500,000 per district (x 4) = US$ 2,000,000

Procedure: Starting in the districts of Tarime, Musoma Rural, Serengeti and Bukoba Rural, identify 20 beneficiaries and provide financial support for the cross breeding of available diary animals; artificial insemination kits; training on management practices (feeds and health); capacity building on market information. Provide micro-finance for investments in milk transport and milk collection infrastructure and for processing of milk products (e.g. cheese).
Timeframe (indicative)
Establishing links and modalities with collaborators – 3 months
Promotion and training – 6 to 12 months and ongoing, respectively.
Encouraging private sector investment – ongoing.
Milestones
1. Determine size of existing production.
2. Increase in production by 50% by end of Year 3.
3. Increase in production by 100% by end of Year 5

AG 2 - Chicken rearing

Current status

Chicken rearing is similar to goat keeping and can be managed by different individuals at the household level. Chicken are kept by almost every household in rural communities in the lake zone. A major constraint is the high rate of infection of the chicken with epidemic diseases which kill almost all the chicken very year. Newcastle Disease, the most common infection of chicken, can be treated effectively through a vaccine that is easily administered. However, although available in Dar es Salaam it is not available to the rural households.

It is argued by both UARI and farmers that intervention and investment in preventing chicken epidemic diseases would make chicken rearing one of the most rewarding enterprises for poor communities in the lake zone, in particular for youth, widows, women, elders etc. as the amount of assets required to undertake this enterprise is small. Other interventions and investments should target the introduction of improved breeds to increase the weight of local breeds.

Concept and beneficiaries

There exists an opportunity to improve the nutritional situation and create income for poor and marginalised people through increased productivity of chicken rearing. This can be achieved through prevention of epidemic diseases and cross breeding of the poultry. Primary beneficiaries are poor communities, women, elders, and youth. To achieve synergies and increase cost efficiency, the chicken rearing project should target the same households and farmer groups as the dairy project, plus an additional six districts.

Proposed activities
To increase the level of prevention of epidemic diseases of chicken through a better distribution network of vaccines and raise awareness among farmers on the administration of the vaccines. Farmer groups need to be sensitized for sharing of vaccine to reduce the cost or verify if micro-finance facility is required and the need exists to introduce cross-breeding of local variety to improve body weight hence the availability of cockerels. Identify 40 beneficiaries (20 year 1; 20 year 2).

Indicative budget
An indicative figure of US$ 50,000 per district, with ten districts considered in total, resulting in US$ 500,000 to this activity over five years.

Monitoring and evaluation
The monitoring of the activity should be undertaken by the same specialist jointly with the monitoring of the dairy project. Records of the number of chicken, sale price, survival rates, amount and timing of vaccines administered, vaccine prices and availability should be kept. Assessments of the improvement in quality of chicken through cross-breeding should be undertaken by veterinary officers. Evaluations should be annual and at the ned of the project.

Records should further be kept by the farmer organisations of the number of interested farmers who approach them for further information. The same households should be included in the household survey to determine the extent to which chicken rearing can contribute to poverty reduction in the pilot districts.

Potential partners
District livestock officers, UARI and veterinary business persons

Timeframe: AG 2 - Chicken rearing

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design and planning																				
Design of monitoring programme																				
Staff recruitment and training																				
Selection of project sites and identify 40 beneficiaries (20 year 1; 20 year 2) sensitize farmer networks																				
Baseline survey																				
Design of educational materials and trials trainings to farmers																				
Improve access to vaccines																				
Training on vaccine administration																				
Training on cross breeding of chicken																				
Continuous monitoring																				
Evaluation																				

Summary

AG 2 – Chicken rearing

Collaborators: District livestock officers, UARI and veterinary business persons

Objectives: Income generation and improved nutrition at household level through increase poultry productivity.
Beneficiaries: Poor communities, women, elders and the youth.

Budget (indicative): US$ 50,000 per districts (x 10) = US$ 500,000

Procedure: Identify 40 beneficiaries (20 year 1; 20 year 2) and provide financial support for the cross breeding of chicken; improvement of accessibility to poultry vaccines in the area; training on vaccine administration and management practices of cross-breeds; assess need for micro-finance or farmer networking for cost sharing.
Timeframe (indicative)
Establishing links and modalities with collaborators – 3 months
Promotion and training – 6 to 12 months and ongoing, respectively.
Encouraging investment – ongoing.
Milestones
1. Determine present access network of vaccines
2. Increase access by 50% within year 1.
3. Increase access by 100% within year 2.
4. Successful cross-breeding practised by all 40 participating farmers by year 2.
5. Successful cross-breeding practised by all 200 participating farmers by year 5.

AG 3 – Improved cassava farming

Current status

Cassava is one of the major food crops for the fishermen living around the lake. It is eaten for the reason that cassava digestion takes longer, thus allowing fishers to work longer hours without needing to relieve themselves, hence reducing degradation to lake shore and water. The current productivity of cassava is high but it is associated with “cassava mosaic disease” (CMD) which is a dangerous disease to cassava based on a virus infection carried by the white fly. Cassava processing is time consuming and laborious. Targeted interventions could improve both productivity and quality.

Concept and beneficiaries

The principal idea is to increase cassava productivity by introduction of varieties resistant to cassava mosaic disease, to introduce improved post harvest technologies and to improve access to market information. Once resistant cassava is available to farmers, they can continue to multiply the crop disease-free.

Fishermen prefer eating cassava in form of “*Ugali*” cooked from cassava flour. Thus, post harvesting technologies include machines to process cassava flour, which are available with SIDO for Tsh 500,000. Also cassava can be processed into chips by motorised and manual chipper machines. Motorised machines are available with SIDO at Tsh 250,000.

Collaboration with SIDO should be sought for this project to undertake training of potential entrepreneurs, investment promotion and to develop microfinance opportunities.

Primary beneficiaries are poor communities, in particular fishing communities, women and youth.

Proposed activities
The first step it to demonstrate cassava varieties resistant to CMD. Such varieties are available at UARI. Then, to demonstrate post harvesting technologies, provide better access to market information, invest in cassava milling machines and cassava chippers and finally to provide microfinance opportunities to private entrepreneurs to undertake these investments.

Indicative budget
The activity requires US$ 150,000 per district and ten districts are to be selected for implementation over five years.

Monitoring and evaluation
The monitoring of this project should be undertaken by a specialist appointed by ARI-Ukiriguru or SIDO or possibly another suitable NGO in the area. The monitoring should be based on the monitoring programme developed at the start of the project based on verifiable indicators and continued throughout the lifetime of the project. There shall be three mid-term and a final evaluation after the end of the fourth year of the intervention.

Core data to record includes the number of participating farmers, rate of adoption of CMD resistant varieties and change in occurrence of CMD. Furthermore the number of machines purchased by entrepreneurs, amount of processed cassava products (flour and chips) sold, sale prices, number of loans given, and loan pay-back periods.

Training events should be monitored through training assessments and a baseline survey needs to be conducted to establish changes in income of the participating entrepreneurs and availability of market information. The monitoring of training events and the baseline survey should be outsourced to a specialised institution. The baseline survey and the monitoring programme need to include the same indicators so that changes over time can be assessed.

Potential partners
District agricultural officers, UARI and SIDO.

Timeframe: AG 3 – Improved cassava farming

Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Activities																				
Detailed project design and planning																				
Design of monitoring programme																				
Staff recruitment and training																				
Selection of project sites and formation of farmer groups																				
Baseline survey																				
Design of educational materials and trial trainings to focus groups																				
Purchase of demo machines																				
Training of potential entrepreneurs on post harvest technologies																				
Training on how to obtain market information																				
Implement measures to increase access to market information																				
Training on processing and packaging																				
Setting up of micro-finance facility																				
Investment promotion on cassava processors and chippers																				
Continuous monitoring																				
Evaluation of performance of the investment and assessment of need for additional training																				

Summary

AG 3 – Improved cassava farming
Collaborators: SIDO, district agricultural officers and UARI.
Objectives: Increase cassava productivity, processing, market information and value.
Beneficiaries: Poor communities, fishers, women and youth.
Budget (indicative): US$ 150,000 per district (x 10) = US$ 1,500,000
Procedure: Finance provided to conduct demonstrations of varieties resistant to cassava mosaic disease (CMD), from varieties at UARI; on post harvesting technologies, and on market information. Micro-finance made available to private sector to process motorised cassava flour millers (e.g. from SIDO), and for motorised/manual chipper machines to process fresh cassava into chips. **Timeframe (indicative)** Establishing links and modalities with collaborators – 3 months Promotion and training – 6 to 12 months and ongoing, respectively. Encouraging private sector investment – ongoing. **Milestones** 1. Determine accurate cassava production figures. 2. 1,000 farmers attending training. 3. 500 millers and chipper machines purchased using micro-finance.

AG 4 – Improved sweet potato farming

Current status

Unlike cassava, sweet potato is a women cash crop and is eaten by all farmers especially during the wet season at work (in the farm). The main farmers of sweet potatoes are women. The major constraint they face is the availability of seeds (cuts) as they dry out during every dry season. Availability in the season that follows becomes difficult. The current sweet potatoes yield is high but the sliced, dried and stored product (*Michembe*) is commonly affected by pests. Also, the crop has not yet attracted interregional markets due to the poor processing quality. Interventions and investments should be targeted to resolve the aforementioned problems.

Concept and beneficiaries

The main objective is to increase sweet potato productivity and to improve the quality of processed products through processing and improved market information. Furthermore, productivity could be improved through better storage methods of fresh potatoes. An improved technique will be introduced where the potatoes are buried immediately after harvesting in a pit. The bottom of the pit is filled with large sized sand from the lake while the sides of the pit are covered with elephant grasses. Research by UARI scientists confirmed that such a technique can keep potatoes with the same quality for the period of up to four months. The stored potatoes fetch double the price after four months compared to normally stored potatoes, which provides much better returns to farmers. The primary beneficiaries are women in poor communities.

Proposed activities
The activity should begin with a demonstration of the varieties with scientifically proven high yields through the UARI and farmers shown how to ensure multiplication of the improved varieties. At the same time, access to information on interregional and international markets should be provided. There will be a need to invest in processing machines with improved drying procedures (machine costs Tsh 250,000) and in improved packaging of processed potatoes. Finally, the promotion of improved methods of storing the fresh product.

Indicative budget
The indicative expense for the activity is US$ 80,000 per district, with ten districts being the target, hence a total of US$ 800,000.

Monitoring and Evaluation
As with the previous proposed activities, monitoring should be undertaken by qualified specialists appointed by UARI or SIDO or suitable relevant NGO. Mid-term evaluations are proposed in years 2, 3 and 4, with a final evaluation at the end of year 5.

Core data to record includes the number of participating farmers, rate of adoption of improved sweet potato varieties and processing methods. Training events should be monitored through training assessments and a baseline survey needs to be conducted to establish changes in income of the participating farmers.

Potential partners
District agricultural officers and UARI.

Timeframe: AG 4 – Improved sweet potato farming

Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Activities																				
Detailed project design and planning																				
Design of monitoring programme																				
Staff recruitment and training																				
Selection of project sites and formation of farmer groups																				
Baseline survey																				
Design of educational materials and trial trainings to focus groups																				
Purchase of demo machines																				
Training of potential entrepreneurs on post harvest technologies																				
Training on how to obtain market information																				
Implement measures to increase access to market information																				
Training on processing and packaging																				
Setting up of micro-finance facility																				
Investment promotion on potato processors and chippers																				
Continuous monitoring																				
Evaluation of performance of the investment and assessment of need for additional training																				

Summary

AG 4 – Improved sweet potato farming

Collaborators: District agricultural officers and ARI-Ukiriguru.

Objectives: Increase sweet potato productivity through processing and storing. Improve access to market information.
Beneficiaries: Female farmers in poor communities in ten districts.

Budget (indicative): US$ 80,000 per district (x 10) = US$ 800,000

Procedure: Increasing productivity and farmers' income through introduction of improved varieties, improved storage and processing methods of sweet potato as well as improved access to market information.

Timeframe (indicative)
Establishing links and modalities with collaborators – 3 months
Promotion and training – 6 to 12 months and ongoing, respectively.
Encouraging investment – ongoing.
Milestones
1. Determine accurate potato production figures by the end of the first 6 months.
2. 1,000 farmers attending training at the end of year 2.
3. 1,000 farmers using improved storage, processing and packaging methods at the end of year 4.
4. Sweet potato production increased by 500% by end of year 5.

AG 5 – Boost to cotton farming

Current status

Cotton is the only cash crop considered acceptable and tangible in the lake zone. The most important constraint the crop is currently facing is the fact that production costs are higher than returns. Scientists at UARI however argue that this can be resolved through interventions and investments on high yielding varieties and pest and diseases control. The key issue to be addressed would be the demonstration of improved varieties and of techniques of crop husbandry to farmers.

Concept and beneficiaries

Increase income of cotton farmers through increased cotton productivity/quality. This will be achieved through the introduction of high-yield varieties (e.g. UK 2006) from UARI, farmer training in disease control, improved access to market and price information as well as formation of farmer partnerships. Lastly, micro-credits will enable farmers to purchase farming implements where necessary. Primary beneficiaries are cotton farmers in the cotton producing districts of the LVB.

Proposed activities

Beginning with the introduction of high yielding varieties which are acceptable at both local and international markets, the capacity of farmers to engaged in crop husbandry, pest control and preliminary-processing/storage procedures will be improved. There will be a provision of market information and information on partnerships and the merits of investment in demonstration and multiplication

of varieties (e.g. UK 2006) that meet the above requirements. Investments will be made in the provision of farm implements either through credits or hiring.

Indicative budget
For each of four district, US$ 150,000 should be invested in the activity, hence a total of US$ 600,000.

Monitoring and evaluation
The monitoring of this project should be undertaken by a specialist appointed by UARI. The monitoring should be based on the monitoring programme developed at the start of the project based on verifiable indicators and continued throughout the lifetime of the project. There shall be annual and final evaluations.

Core data to record includes the number of participating cotton farmers, rate of adoption and type of high-yield varieties. Yields per type and per farmer need to be measured and compared to a baseline to assess changes over time. Multiplication of yield data with market prices will allow calculation income and income changes over time. Prices of farming inputs will also need to be measured. The micro-finance component requires monitoring of number of loans given per farmer and in total per year and actual versus planned loan pay-back periods as well as any constraints encountered.

Training events should be monitored through training assessments and a baseline survey needs to be conducted to establish changes in income of the participating entrepreneurs and availability of market information.

Potential partners
District agricultural officers, UARI and cotton buyers**.**

Timeframe: AG 5 - Cotton farming

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design and planning																				
Design of monitoring programme																				
Staff recruitment and training																				
Selection of project sites and formation of farmer groups																				
Baseline survey																				
Design of educational materials and trial trainings to focus groups																				
Training on multiplication and demonstration of high yielding and disease resistant varieties																				
Training on post harvest technologies & obtaining market information																				
Training on processing and packaging and storage																				
Implement measures to increase access to market information																				
Invest in provision of farm facilities such as credit services and inputs such as high yielding varieties (UK 2006)																				
Continuous monitoring																				
Evaluation of performance of the investment and assessment of need for additional training																				

Summary

AG 5 – Boost to cotton farming

Collaborators: District agricultural officers, UARI and cotton traders.

Objectives: Increase cotton productivity and quality and improve market information and value.

Beneficiaries: Cotton farmers.

Budget (indicative): US$ 150,000 per districts (x 4) = US$ 600,000

Procedure: Finance provided to conduct demonstrations of high-yield varieties (e.g. UK2006) from ARI – Ukiliguru, plus training in disease control, and on market information and partnerships. Once established, micro-finance made available to farmers to hire/purchase farming implements where necessary.

Timeframe (indicative)

Establishing links and modalities with collaborators – 3 months
Promotion and training – 6 to 12 months and ongoing, respectively.
Encouraging private sector investment – ongoing.

Milestones

1. Determine accurate cotton production figures by the end of the first 6 months.
2. 500 farmers attending training at the end of year 2.
3. 500 farmers using micro-finance facilities to boost yields by the end of year 2.
4. Proven increase in yields at demonstration sites by project end after five years.

AG 6 - Maize as horticultural crop

Current status

Cultivating maize as a horticultural crop means cultivating and selling maize when it is fresh or roasted. This practice is reported to pay three fold compared to allowing the maize to dry and sell it as grains. Although selling fresh maize is against the Tanzania agricultural policy, both farmers and agricultural economists believe that something should be done to allow farmers to be entrepreneurs on this rewarding enterprise. Although the enterprise is not allowed in principle, it is being practiced in the lake zone. The enterprise nevertheless faces some problems such as high prevalence of pests in most dry season (in wetlands – manyala) cultivated maize. There is demand for maize varieties that mature within three month and are palatable when roasted. Such varieties are reportedly available at the UARI.

Concept and beneficiaries

The main aim is to increase productivity and value of maize as a crop through the introduction of high-yield and disease resistant varieties, farmer training, improved packaging, storage and transportation. Furthermore improved market information and investments in packaging, storage facilities, improved seeds and chemicals for pest control shall address some of the main constraints. The primary beneficiaries are maize farmers in the LVB.

Proposed activities

The activity should commence with a demonstration and introduction of an early maturing maize variety, which is palatable when roasted and cooked; followed by a demonstration and introduction of varieties resistant to pest (e.g. stock bor-

ers). Demonstration and training on how to use the PUSH – PULL technique available at UARI to prevent maize stock bores which attach most of the dry season maize cultivation should be included. Efforts should be geared towards improvement of access to market information and to investments in storage and packaging facilities and in improved seeds and pesticides.

Indicative budget
The indicative budget is US$ 30,000 per district and ten districts are envisaged, hence a total of US$ 300,000.

Monitoring and evaluation
The monitoring of this project should be undertaken by a specialist appointed by ARI-Ukiriguru. The monitoring should be based on the monitoring programme developed at the start of the project based on verifiable indicators and continued throughout the lifetime of the project. There shall be annual and final evaluations.

Core data to record includes the number of participating maize farmers, rate of adoption and type of high-yield varieties. Yields per type and per farmer need to be measured and compared to a baseline to assess changes over time. Multiplication of yield data with market prices will allow the calculation of income and income changes over time. Prices of farming inputs will also need to be measured. The micro-finance component requires monitoring of the number of loans given per farmer and the totals per year as well as the actual versus the planned loan pay-back periods and finally, of any constraints encountered.

Potential partners
District agricultural officers, UARI and Ministry of Agriculture.

Timeframe: AG 6 - Maize as horticultural crop

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design and planning																				
Design of monitoring programme																				
Staff recruitment and training																				
Selection of project sites and formation of farmer groups																				
Baseline survey																				
Design of educational materials and trial trainings to focus groups																				
Training on multiplication and demonstration of high yielding and disease resistant varieties																				
Training on post harvest technologies and how to obtain market information																				
Training on harvesting, storage, packaging and transportation of horticultural crops																				
Training on fertility management in wetland areas																				
Implement measures to increase access to market information																				
Investments in packaging, temporary storage facilities, improved seeds, pesticides, and transportation facilities																				
Continuous monitoring																				
Evaluation of performance of the investment and assessment of need for additional training																				

Summary

AG 6 - Maize as horticultural crop
Collaborators: District agricultural officers, UARI and Ministry of Agriculture.
Objectives: To increase the income of maize farmers through increased productivity of maize farming. **Beneficiaries:** Maize farmers in the LVB
Budget (indicative): US$ 30,000 per district x 10 = US$ 300,000.
Procedure: Productivity increases shall be achieved through introduction of high-yield varieties, improved storage and packaging facilities. Access to market information and transport facilities will also be improved.
Timeframe (indicative) Establishing links and modalities with collaborators – 3 months Promotion and training – 6 to 12 months and ongoing, respectively. Encouraging private investment – ongoing. **Milestones** 1. Determine present yield and income data by the end of the first 6 months. 2. 500 farmers attending training at the end of year 2. 3. 500 farmers using micro-finance facilities to boost yields by the end of year 2. 4. Proven increase in yields at demonstration sites by end of year 5.

AG 7 - Agro forestry farming

Current status

A green belt and an ecologically sustainable environment with the Lake Victoria would offer a good living condition for different families. Interventions on agro forestry farming would require a call for both small and large scale farmers and anybody who owns land to plant either solely trees or trees intercropped with food crops. Both food and non food trees has proven to be of economic value in various ways, such as like medicinal values (e.g Mlonge), fruits (e.g. pawpaw and mango), and firewood. A similar programme is being implemented by "Vi Agro Forestry Project" in the LVB. This project is very successful and the project's lessons learned could be used to guide investments in other areas in the lake zone not covered by the "Vi Agro Forestry Project".

Concept and beneficiaries

The principal idea is to make agroforestry an engine of economic growth and a means to reduce poverty in the LVB. This shall be achieved through technology transfer from the project area of the "Vi Agro Forestry Project" to other areas of the lake zone. Farmer training on intercropping will be provided. Micro-finance facility established to assist with tree seedlings, to conduct demonstration of planting techniques and disease control. An annual awareness campaign shall be conducted. The primary beneficiaries are all rural households in the area.

Proposed activities

Identify trees which are environmental friendly and develop training and awareness campaign on planting environmentally friendly trees and discouraging the environmental degrading trees. Conduct training on intercropping, investment in

planting and multiplication of improved variety and less environmental degrading trees identified by the “Vi Agro Forestry Project”. Investment in improved varieties of fruits trees to improve health of the people and in scientifically proven trees such as *Moringa oleifera* (Mlonge).

Indicative budget
The indicative budget is US$ 200,000 per district, and with a total of ten districts proposed, this activity requires US$ 2,000,000.

Monitoring and evaluation
The monitoring of this project should be undertaken by a specialised NGO in the area or the District Forest Officer. The monitoring should be based on the monitoring programme developed at the start of the project based on verifiable indicators and continued throughout the lifetime of the project. There shall be evaluations annually and at project end (year 5), respectively.

Core data to record includes the number of participating farmers, number and species of trees planted, method of planting, seedling survival rates. The micro-finance component requires monitoring of number of loans given per farmer to purchase seedlings and in total per year and actual versus planned loan pay-back periods as well as any constraints encountered.

Market information on different wood products and assistance and investment with transportation is required to access market of wood products to make tree planting an attractive and viable enterprise.

Potential partners
“Vi Agro Forestry Project”, district forestry officers, UARI and policy markers.

Timeframe: AG 7 - Agro forestry farming

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design and planning																				
Design of monitoring programme																				
Staff recruitment and training																				
Selection of project sites and formation of farmer groups																				
Baseline survey																				
Design of educational materials and trial trainings to groups of farmers																				
Training on values, marketing and use of different trees, e.g. for medicine, fruits, fire wood and environmentally friendly species																				
Invest in tree seedling nurseries, planting and management of accepted and environmentally friendly trees																				
Awareness-raising campaign																				
Continuous monitoring																				
Evaluation of performance of the investment and assessment of need for additional training																				

Summary

AG 7 – Agro-forestry farming

Collaborators: "Vi Agro Forestry Project", district forestry officers, UARI and policy makers.
Objectives: Increase permanent forest coverage around LVB and maintain profits from forestry.
Beneficiaries: All rural farmers in the LVB (primary) and the country as a whole (secondary)
Budget (indicative): US$ 200,000 per districts (x 10) = US$ 2,000,000

Procedure: Working with the "Vi Agro Forestry Project" to expand into LVB areas not currently engaged in, with finance provided to establish tree seedlings (of suitable species), conduct demonstrations of planting techniques, timing and disease control. Annual LVB tree planting publicity and promotion campaign. Once established, micro-finance made available to farmers to expand managed forests where necessary.
Timeframe (indicative)
Establishing links and modalities with collaborators – 3 months
Establishing tree seedling growth sites – 6 to 12 months and ongoing, respectively.
Encouraging private sector investment – ongoing.
Milestones
1. Determine accurate forest cover for LVB.
2. Seedling production over 10,000 plants and first annual forest promotion campaign held.
3. Planting over 1,000,000 seedlings.
4. LVB forest cover increase by 10 %.
5. Over 1,000 farmers using micro-finance to increase forest cover, by end of year 5.

AG 8 – Grain banking

Current status

The storage and packing system of produces in Lake Victoria zone can be divided into two groups following the existence of poor farmers and stockers in the area. There has been a mixture of storage and packing facilities following the existence of these groups. Poor farmers maintain the use of four types of storage facilities.

"Vihenge" are storage facilities constructed like baskets. They use long flexible poles and are plastered by cow dung. "Likunguku" is a baby bed-like structure using poles enclosed in the house or outside for storage purposes. "Mabibi" is a storage method where maize cobs are not removed from their straws and are collected in a form of mound and left in the farm (see figure above). "Mifuko" are normal bags which are packed with the produces and staked indoor during the whole period of storage. All the three types of storage facilities are simple to construct and cheap and thus very suitable for poorer farmers. The remaining problems are the control of pests and theft.

Stockers/traders use two type of storage and packing facilities. These are “Godowns” and “Bags in Godowns”. With the “Godown”, the produce is poured on a cement finished floor. Regular inspection is done to check for fungus infection, pests, or moisture leakage. The “Bags in Godown” is presently the most favourable system. Produces are packed in bags and staked in Godowns until when the produce are sold.

Crops include maize, rice, sorghum, millet, legumes and pulses. Since most poor farmers sell their crops during low price season, this investment could function such that when the poor farmer want to sell their produces they could always go to the Grain Bank (GB) to bank their grains and take the amount of money they need without exceeding the pre-defined limit for a given amount of grain deposit. The Grain would be kept at the bank with all the treatment and pest control measures until when the bank wish to sell either to inter-regional or international market at the profitable price. After selling the farmer will be charged an interest, storage cost, transport etc. Based on the costs incurred the farmer will be given the balance of his sell if any. This needs to be done in a transparent way for example by formulating committees to oversee the whole process from grain banking to selling.

Concept and beneficiaries

The main objective is to provide micro-credits to establish grain storage facilities (grain banks) at five sites, plus training of farmers on grain bank usage and management. Once established, micro-credits are made available to business persons/groups to manage, maintain and expand the stores.

Proposed activities

Awareness raising on the values of grain banking will be the start of the activity followed by the establishment of a micro-credit facility for construction of such storage facilities. Training on grain bank use and management and financial management, accounts and transparency will follow. The appointment of existing or formation of new association to monitor transparency of grain banking process, investments in storage facilities, and expansion of grain banks and promotion of grain banking as a viable business will be integral parts of the activity.

Indicative budget

A budget of US$ 100,000 per district is proposed, for five districts, thus this activity requires US$ 500,000.

Monitoring and evaluation

The monitoring of this project should be undertaken by a specialised NGO in the area or the local authority (LA). The monitoring should be based on the monitoring programme developed at the start of the project with a baseline survey, based on verifiable indicators and continued throughout the lifetime of the project. There shall be annual and a final evaluations.

Core data to record includes the number of participating farmers, number and types of crops stored in the grain banks, sale prices during various seasons. Changes of income of farmers using grain banks need to be compared to farmers not using grain banks (control group) to establish to what extent grain banking is a viable business.

It is important to monitor continuously through an independent party how transparent the grain banking process is and that sound financial and book keeping practices are applied throughout the project. Also the risk of crop loss during storage in the grain banks due to theft, fungus infection etc. needs to be monitored.

The micro-finance component requires monitoring of number of loans given per entrepreneur to establish storage facilities and in total per year and actual versus planned loan pay-back periods as well as any constraints encountered.

Potential partners
District agricultural officers, UARI and business persons.

Timeframe: AG 8 – Grain banking

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design and planning																				
Design of monitoring programme																				
Staff recruitment and training																				
Selection of project sites																				
Baseline survey																				
Establishment of demonstration grain banks																				
Training of farmers on grain bank use and management																				
Appointment of association to monitor transparency of grain banking process																				
Training on financial management of grain bank managers																				
Establishment of micro-credits for storage facilities and expansion of grain banks																				
Investment promotion																				
Continuous monitoring																				
Evaluation of performance of the investment and assessment of need for additional training																				

Summary

AG 8 – Grain banking

Collaborators: District agricultural officers, ARI-Ukiriguru and business persons

Objectives: Increase availability and use of dry, pest-free storage facilities.

Beneficiaries: Grain farmers and traders.

Budget (indicative): US$ 100,000 per districts (x 5) = US$ 500,000

Procedure: Finance provided to conduct storage facilities (grain banks) at five sites, plus training to farmers on grain bank usage and costs. Once established, micro-finance is made available to business persons/groups to manage, maintain and expand stores.

Timeframe (indicative)
Establishing links and modalities with collaborators – 3 months
Construction of grain storage – 6 to 12 months.
Encouraging private sector investment – Ongoing.

Milestones

1. Determine sites and precise beneficiaries through economic analysis.
2. Construction of five grain banks.
3. Over 500 farmers trained and benefiting from increased profits due to targeted selling.
4. Micro-finance taken up to construct additional grain storage facilities.

AG 9 - Jatropha production

Current status

The Jatropha plant commonly grows in the semi arid areas of the LVB in Shinyanga, Kagera, Musoma and Mwanza regions where annual average rainfall ranges from 500 to 1000 mm per annum. Jatropha grows well at an average level of rainfall of 600 mm which occurs in most parts of the LVB. The plant does not need much management nor is it eaten by animals; hence it is mostly used to make hedges, boundaries and sheds.

The plant can grow and yield fruits all year around. Its leaves and liquid have medicinal effect and the stems are normally used for firewood besides fencing. The fruits are used as fertilizer and give bio-diesel oil and also oil for soap making. The plant is suitable to be adopted as one of the permanent cash crops in these areas where most areas of the LVB do not have perennial cash crop. The plant is already present in the Lake Zone area and has been tested in other parts of the country where it has shown success in improving people's livelihoods.

An economic evaluation of Jatropha plant undertaken by the KAKUTE Project in Monduli, Arusha, shows that the collection of seeds and its sale give the least added value. Oil extraction is more profitable than seed collection, but not as good as soap making. This phenomenon has been clearly expressed by the Monduli women who are not very much interested in selling seeds or oil as they want to gain the added value of the whole production chain and sell only soap.

Concept and beneficiaries
The aim is to introduce and promote Jatropha which traditionally has been used to make hedge for animals and farm borders. It has been scientifically proven that the plant is viable for bio-diesel generation. The economic value of the Jatropha plant is not fully known and thus the plant not fully utilized. The concept involved three steps: Firstly, the promotion of the already existing Jatropha plant in the area through processing of seeds to make diesel, soap and medicine. Secondly, the formation of farmers groups which will undertake study visits to successful Jatropha farmers' groups in Northern Tanzania. These groups will include the KAKUTE and the ARI – Monduli. The third step is the mobilization and planting of Jatropha in the lake zone. The primary beneficiaries are interested farmers in the LVB.

Proposed activities
To identify village level producer groups in four districts, assess their training needs, conduct skills training and launch a sustainable training system for stakeholders of this project. Then conduct a participatory survey of farmers' organisations that will involve villagers and raise their awareness and help them to make action plans that will make the project successful; assess and approve the viable producers groups after training and fulfilling set conditions of giving capital loans; and collect information on viable markets and provide access to those markets. Further training to be provided to leaders of the groups and their elected or appointed workers in the group association societies to improve their management skills. Keeping transparent records to ensure good governance and continue to supervise village to village production and training system is needed so as to monitor progress and help them to set new strategies for improvement. The search for the possible buyers of the seeds to be produced from the projected added production of seeds is an integral part of the parallel research.

Indicative budget
The proposed budget is US$ 150,000 per district and with four trial districts (yet to be selected) the total investment is US$ 600,000.

Monitoring and evaluation
The monitoring of this project should be undertaken by a specialist with experience in Jatropha production. It will be required to monitor data on harvesting, processing, storage and marketing. An economic evaluation will show the viability of this project. Economic data includes price, sales and cost figures to calculate the rate of return for participating farmers.

As with other projects, the monitoring should be based on the monitoring programme developed at the start of the project, with a baseline survey and based on verifiable indicators and continued throughout the lifetime of the project. There shall be annual and a final evaluation after five years.

Potential partners
District agricultural officers, UARI, agro-processing industries, diesel traders, private sector Jatropha producers (e.g. Diligent Tanzania Ltd. in Arusha).

Timeframe: AG 9 - Jatropha production

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design and planning																				
Design of monitoring programme																				
Staff recruitment and training																				
Selection of project sites																				
Baseline survey																				
Select farmers and farmer groups																				
Design of educational materials and trial trainings of farmers																				
Conduct training and undertake study visits																				
Promote & support Jatropha planting, processing/marketing products																				
Assist with market access and information																				
Continuous monitoring																				
Evaluation of performance of the investment and assessment of need for additional training																				

Summary

AG 9 - Jatropha production

Collaborators: District agricultural officers, ARI-Ukiriguru, Agro processing industries, private sector Jatropha producers, diesel traders.
Objectives: Increase production of Jatropha plant in the lake zone and make it pillar for rural economic growth of the people living in the LVB.
Beneficiaries: Farmers in the project area.

Budget (indicative): US$ 150,000 per districts (x 4) = US$ 600,000

Procedure: The procedure will cover three stages: The first stage will be promotion of the already existing Jatropha plant (which are currently used as cultural plant and or fencing plant) in the area. This will include processing of seeds to make diesel, soap and medicine. The second stage will include formation of farmers groups which will include visit to the most successful Jatropha farmers' groups in northern Tanzania. These groups will include the KAKUTE and the ARI – Monduli. The third stage is the mobilization and planting of Jatropha in the lake zone. Jatropha plants already exist in the region but its economic value is not fully known and thus not fully utilized.
Timeframe (indicative)
Establishing links and modalities with collaborators – 3 months
Training – from month 3
Promotion - during year 2and 3.
Investment on Jatropha production – from month 6 – on going
Search market information – on going
Encouraging private sector (agro processing) to invest on Jatropha – ongoing.
Milestones
1. Determine accurate Jatropha production figures in the study area.
2. 100 farmers' groups to attend training.
3. 500 farmers using micro-finance to invest on Jatropha.

AG 10 – Community afforestation project

Current status

Deforestation has significantly affected the country over the last ten years and in 2006 was partly blamed for the poor rainfall that affected water catchment in the main river basins that provide electricity throughout Tanzania. In the LVB, barren hill-tops and islands are common features, in stark contrast to the lush, towering forests of Rubondo Island. Exposed granite boulders are more common aspects of the landscape now that the forest cover has been removed, the heat stored within the rocks further adding to the local heat generated from the intense sunshine typical of this region. Erosion and siltation following heavy seasonal rains have choked rivers and added to deterioration lakeside habitats, important for fish reproduction. The value of catchment afforestation was described in the LVEMP-1 New Bulletin Volume 1 (1) December 2000, yet for the Tanzanian portion of the LVB it would seem that the programme has failed to deliver the expected results and the Consultant recognises the continued need to engage in effective re-planting.

LVEMP-1 recommended that participatory approaches be used to enhance stakeholder involvement in resource management, that there was a need for

monitoring of the impact of afforestation programmes, and that central nurseries should be used for training and demonstration, but private sector nurseries were more effective at supplying seedlings.

Concept and beneficiaries
The aim is to re-evaluate the previous attempts to reafforest the region; gain lessons learnt and re-initiated the programme. This will require assessment of the community involvement, land ownership, appropriate tree species selection, nurseries and manpower for planting and post-planting care. The latter should include NGOs, forestry departments and more especially schools and prisoners. The Jatropha tree (see AG-7) may be included as a suitable species. Beneficiaries of reafforestation of large parts of the LVB will be future generations of occupants of the region.

Proposed activities
The programme should start with a detailed evaluation of previous attempts to afforest the region. From there suitable partners and target afforestation areas need to be identified. Skills training in nurseries and planting and care should follow, with periodic monitoring and follow-up.

Indicative budget
An indicative budget is US$ 200,000 per district is proposed to cover at least ten districts, hence a total of US$ 2,000,000.

Monitoring and evaluation
The monitoring of this project should be undertaken by forestry specialists with proven experience in afforestation. Monitoring should be based on satellite images and field visits and continued throughout the lifetime of the project.

Monitoring should be based on a programme developed at the start of the project, with a baseline survey and based on verifiable indicators and continued throughout the lifetime of the project. There should be annual and a final evaluation after five years.

Potential partners
District forestry officers, UARI, education department, regional prison authorities, Vi Agro Forestry Project, other NGOs and policy makers.

Timeframe: AG 10 – Community afforestation project

Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Activities																				
Detailed project design and planning																				
Detailed evaluation of previous forestry projects																				
Design of monitoring programme																				
Selection of afforestation sites, appropriate species and nurseries																				
Select participants at each afforestation sites																				
Baseline survey																				
Conduct training and undertake study visits																				
Conduct planting programme																				
Promote and publicise afforestation planting																				
Continuous monitoring																				
Evaluation of performance of the programme and assessment of need for additional inputs																				

Summary

AG 10 – Community afforestation project

Collaborators: Vi Agro Forestry Project and other NGOs, district forestry officers, UARI, regional prison authorities, local education departments and policy makers.
Objectives: Increase permanent forest coverage around LVB.
Beneficiaries: All rural communities through improved water catchment and more stable environment and reliable rainfall throughout the LVB (primary) and the country as a whole (secondary).
Budget (indicative): US$ 200,000 per districts (x 10) = US$ 2,000,000

Procedure: Working with district forestry and ARI-Ukiriguru staff and NGOS (e.g. ViAgroforestry) to re-evaluate previous attempts at afforestation in the LVB. Examine land ownership issues, select programme sites and species, engage private sector tree seedlings suppliers for suitable species, engage participants at selected sites and conduct demonstrations planting. Establish continuous LVB tree planting publicity throughout programme (in combination with AG-7) and monitoring GIS and satellite imagery methodology.
Timeframe (indicative)
Establishing links and modalities with collaborators – 3 months
Establishing afforestation sites – 6
Planting programme underway - years 2-5
Publicity and monitoring - ongoing.
Milestones
1. Determine accurate forest cover for LVB (see AG-7).
2. Afforestation initiated at ten sites, involving diverse stakeholders.
3. Planting over 1,000,000 seedlings.
4. LVB forest cover increase by 10 % (separate to AG-7).

OTHER INVESTMENTS IN AGRICULTURE

The following additional investments in agriculture that have not been elaborated on in detail but are recommended:

Large scale farming – Investment in a range of crops like cereals, pulse, fibre, beverages and livestock is feasible in the LVB and should be targeted towards the agro-processing industry so as to stabilise prices and create jobs for the surrounding community. Investments in large scale farming will encourage farmers to enter into contract farming either as individuals or associations to produce and sell crop products of the quality acceptable to the investor/company. A model like this would be a replica of what could be seen today between the Kilombero Sugar Company in Morogoro and the Kilombero Community Trust Farm (KCTF).

Agro-processing – Improvement of products from processing, packing and exporting of crop such as cassava, potatoes, mangoes etc. These crops are locally produced and during their harvesting period they fetch very low prices. For example mangoes in areas of Shinyanga and Mwanza simply rot and become of no use to the community. Mangoes have potential and value when processed into chips or juice. The latter fetches good market price in towns. Dried or fried cassava and potatoes are produced in abundance in the lake zone. The problem is that the crops have no readily available market. The local processing of potatoes

is by slicing and drying. The sliced product is commonly known as “michembe” while the sliced and dried cassava is commonly known as “Udaga”. The two local processing measures do not add much value to the product except that it is a good preservation measure. The sliced products are later used as food at household level. Investment opportunities exist with these crops. The major concern would be to add value through high quality processing, packing and promotion of the products. The good environment over this investment is the fact that the raw materials are available in abundance in the area and every season. The chips of both crops are well perceived in inter-regional markets like Dar es Salaam. A small bags (400g) of well roasted cassava/potatoes chips would fetch Tsh 1,000 while the bag of 50 kg locally sliced cassava/potatoes fetches between Tsh 5,000 to 9,000 in the lake zone.

Sisal expansion – Investment on less regarded crops such as sisal. Sisal has potential as a cash crop in dry areas of the LVB due to its drought resistance. It is being grown in patches in Kwimba, Misungwi and Magu to serve the purpose of fence or farm boundary. The crops are very healthy and this shows that there is a real potential for researchers and investors to look into this crop.

Dairy products – Investments in livestock and their products such as cheese and margarine. The livestock prices fluctuate seasonally and inversely with crop yield. Investments would aim at stabilising the price fluctuation and providing a positive rate of return to the livestock keeper throughout the season. This could be done by facilitating livestock keepers to enter into contract with agro processing industries such as Mara Milk industry to buy their milk.

3.3 Fisheries

Main objective: the identification of strategies for artisanal fishing (fishing methods, processing, packaging) industry to improve the quality of products.

Progress

Desk studies, meetings in Dar es Salaam and site visits to Mwanza, Musoma and Kagera regions provided an overview of aquaculture fisheries; information on post harvest, value adding and marketing was obtained through discussion with representatives of the local fishing industry. An assessment of gear availability was made and existing options and socio-economic arrangements for the fishing sector investigated. Management of the fisheries at a local level was also examined.

BACKGROUND

There exists three important and main fisheries in Lake Victoria with a combined yield of approximately 500,000 tonnes annually, valued at US$ 600 m. These are, in order of importance, the Tilapia fishery, dominated by *Oreochromis niloticus* or ‘sato’; the whitebait or ‘dagaa’ fishery, principally for *Rastrineobola argentea*; and the Nile Perch or ‘sangara’ fishery for *Lates niloticus*. The latter fishery is considered to be the driving force of the Lake Victoria economy. About 50,000 fishers participate in these fisheries in Tanzania.

The Nile Perch only became a significant contributor to the lake fishery in the early 1980's, less than 30 years after its introduction. Now the fishery produces about 200,000 tonnes annually, with Tanzania in 2001 producing about 30,000 tonnes for export. In the early 1990s the first fish processing plants became operational in Tanzania.

The fishery sector in Tanzania is organised through the Fisheries Division at Central Government level in the Ministry of Natural Resources and Tourism (MNRT), under the leadership of the Fisheries Director and four Assistant Directors. At the District level, a District Fisheries Officer (DFO) and varying numbers of Assistant Fisheries Officers exist within the office of the District Executive Director (DED), under the Ministry of Regional and Local Government (MRALG). In addition to, and in combination with government fisheries departments, the three main organisations involved in fishery management of the lake are:

Lake Victoria Fisheries Organisation (LVFO) - coordinates fisheries activities at regional level, having started in 1994 under the Convention signed by all three EAC Partner States. The main purposes of the LVFO are to foster cooperation and harmonise national management measures that promote optimisation and sustainable use of the resources of the lake.

Lake Victoria Environment Management Project (LVEMP) - promotes fishing community co-management and participation in fishery issues. The development and use of Beach Management Units (BMUs) has become increasingly important in fisheries management and are recognised by specialists as the main vehicle for ensuring community participation. The World Conservation Union (IUCN) have supported the LVFO in building the capacity of riparian communities and working with BMUs.

East Africa Community (EAC) - Under Annex 1 of the Treaty for Establishment of the East Africa Community (1999), Article 7 - Operational Principles of the Community - there exist two clauses. The first states that four (of seven) principles that shall govern the practical achievement of the objectives of the Community include: (a) people-centred and market-driven cooperation; (b) the provision by the Partner States of an adequate and appropriate enabling environment, such as conducive policies and basic infrastructure; and (c) the establishment of an export-orientated economy for the Partner States in which there shall be free movement of goods, persons, labour, services, capital, information and technology. Partner States are also implementing monitoring, control and surveillance (MCS) to enforce fisheries regulations to curb illegal, unregulated and unreported (IUU) fishing in Lake Victoria.

From a study examining cross-border fishing issues on Lake Victoria, Hecke et al. (2004) concludes that over the last five years there has been a decline in fish catches, attributed to various factors including the use of destructive gears and an increase in fishing effort and in demand for Nile Perch.

Compliance with National Policies and Strategies
All proposed activities that follow are in compliance with the National Fisheries Sector Policy and Strategy Statement, 1997. The statement calls for, among others, improved resource management and control of access; improved provision of training and education, and understanding of the resource base itself; more efficient resource utilisation and marketing; and, increased community participation in management and better regional and international cooperation (DPG, 2006). Additionally, the interventions proposed are in accordance with the MKUKUTA which calls for "increased contributions from wildlife, forestry and fisheries to the incomes of rural communities".

PROPOSED ACTIVITIES

FI 1 - Solar drier demonstration and credit facility

Current Status
The fishery for Dagaa (*Rastrineobola argentea*) is now reportedly the largest fishery by volume in the Tanzanian sector of Lake Victoria; the catch also contains a small and variable percentage of haplochromid species. Almost the entire product is dried for later consumption, and much of it is exported to neighbouring countries in the region. At present a significant (but as yet unquantified) proportion of the catch is spoilt through poor drying facilities, particularly in the rainy season, through unhygienic processing areas and through a shortage of dry storage facilities. Much of this low grade product is eventually used for animal feed and achieves a significantly lower market price than the higher grade product for human consumption. Even among the latter, there is still much room for improvement to achieve the best grades and best prices for the product.

At present, the fish processors (of whom approximately 80% are women) are slow to improve the quality of the dried dagaa, either through a lack of knowledge or through the difficulty of obtaining credit to improve their operations. Even the simplest improvement, which is the use of a plastic sheet to keep the fish out of contact with sand, is not widely used.

Concept and beneficiaries
More sophisticated but relatively cheap solar driers have been developed, by TATEDO, TIRDO and others, which can produce a high value product and will even operate during the wet season. These are locally constructed of wood and plastic sheeting; once purchased they have zero running costs and minimal maintenance costs. However, the take-up of these systems is reported to be very low. The aim is to examine this low take-up with a view to greatly expanding the use of solar driers for fish.

A fish processor who was interviewed in Ukewewe had bought one solar drying unit at a cost of around US$ 320. He reported being able to dry approximately 10 kg of dagaa per day, achieving a yield of 7kg of dried product. This is then packaged in 0.5 and 1 kg polythene bags which sell at between US$ 1.20 – 1.60 (average 1.40) per kilo as opposed to the previous price of US$

0.64 per kilo. Additional profits thus accrue at the average rate of around US$ 63 per month (assuming 14 days fishing per month) and the cost of the solar drier should be paid off in around 5 months. The trader expressed a strong interest in buying more or larger driers and expanding his business.

Expected beneficiaries will be the existing buyers and processors of *dagaa* with likely expansion to others.

Proposed activity

It is proposed that 20 solar fish driers are used for demonstration purposes at 20 dagaa landing sites around the lake. Choice of sites will be made at a later stage, but they should be widely spaced so as to achieve the maximum impact. Details of ownership and operation are yet to be finalised, but it is suggested that the driers are put into the control of selected BMUs, who will be given the simple training required to operate the drier and who will demonstrate them to processors. Interested purchasers will be given information on how to access the LVEMP2 credit facility.

Assuming that the processors are willing and capable of taking up this simple technology, the expected benefits of this component will be:

- Reduction in post-harvest losses of dagaa;
- Improved value of product and improved profits for fish processors;
- Improved nutrition and food security of lakeside community;
- Extension of profitability of dagaa processing into the wet season;
- Potential source of revenue for BMUs;
- Use of driers for other value-added products (fruit, tomatoes etc.) during periods of the month when no fishing takes place.

Indicative budget

It is estimated that the construction, installation and training for each of the solar driers will be in the region of US$ 500. Therefore for the estimated 20 units proposed, costs will be around US$ 10,000. In addition, monitoring and reporting costs are estimated in the region of US$ 5,000, giving total costs of US$ 15,000.

Monitoring and evaluation

Monitoring of the efficiency of the solar driers should be carried out on a day to day basis by the BMU with whom the drier is lodged; this should be under the supervision of the local fisheries officer or TAFIRI employee. Records of the amount of dagaa bought, the amount of dried product produced and the prices of inputs and outputs should be recorded. Assessment of the improvement in quality should be undertaken by BMUs and fisheries officers, with samples sent to TAFIRI for periodic objective assessment if possible.

Records should be kept by the BMUs of numbers of interested purchasers who approach them for further information and, if known, the number of actual purchases made locally. Financial and credit organisations associated with the project should submit details of numbers of loans made for these items of equipment. A mide-term evaluation shouod be carried out in year 2 and a final evaluation at the end of year 3.

Potential partners

TAFIRI, BMUs and local *dagaa* buyers, processors and traders, that especially include women groups.

Timeframe: FI 1 - Solar drier demonstration and credit facility

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12
Identification of demonstration sites												
Construction of solar driers												
Demonstration of solar drying												
Monitoring of financial performance												
Monitoring of take-up by processors												
Evaluation												

Summary

FI 1 - Solar drier demonstration and credit facility

Collaborators: TAFIRI, BMUs, local dagaa buyers, processors and traders.

Objectives: To increase output of high quality dried *Dagaa* through use of solar driers.

Beneficiaries: Local fish buyers and processors.

Budget (indicative): US$ 15,000

Procedure: Identify 20 beneficiaries' sites for demonstration of units; finalise ownership arrangement (through BMUs), conduct training (ideally during wet season, for fish and fruit etc.); provide micro-finance credit for wider adoption.

Timeframe (indicative): Site selection - 3 months; Construction - 3 to 6 months; Demonstration - 6 months and ongoing; Follow-up – ongoing.

Milestones:

1. Construction and installation of units.
2. First take – up from private sector.

FI 2 - Mobile training units for BMU business and environmental management training

Current status

In all the discussions and interviews held during the field survey of this component, the issue of improved training and awareness raising for the Beach Management Units (BMUs) was stressed repeatedly. After the current (2006) restructuring of the BMUs, it is anticipated that they will become the primary component in the management structure of Lake Victoria's fisheries; consequently it is vital that they acquire the skills and information required to successfully play this role. Such skills would include business management, fund raising, environmental awareness and any other training that is requested by the BMUs.

At present, training and awareness raising is erratic and disorganised. It is difficult and expensive for BMU personnel to attend formal training courses and often the content and nature of the training is not specifically suited to the needs of the BMUs.

Concept and beneficiaries

It is proposed that four mobile training units are established under the Publicity Division of the department of Fisheries. These would be based at Mwanza region (2), Mara region (1) and Kagera region (1), and would provide a wide coverage of landing sites and fishery centres long the lakeshore. The overall benefits would include the raising of the level of environmental awareness of the general lakeshore population, with specific targeting of fishing communities; this should lead to easier and more effective management of the fisheries as understanding of the problems and solutions increases throughout the population.

Proposed activity

Each of the four mobile training units would basically comprise a four wheel drive vehicle with a generator and with educational facilities such as posters and demonstration boards, video / DVD projector and screen, leaflets and other handout materials. Each would require a staff of three persons – a driver/technician and two educators, who could be recruited to the Fisheries Division. NGO involvement should also be sought. Additional specialist trainers would be recruited if the need arises. Specific educational material and training courses will be developed after consultation with BMUs to determine their needs.

The mobile units will travel to landing and fishery centres around the Tanzanian sector of the lake and will provide either general background training and awareness raising to a wide audience (fishers, processors etc.) or will provide more targeted training to selected BMU staff or smaller groups of individuals. It would be expected that most major landing sites would be visited at least once a year, but the minor sites would receive fewer visits.

Benefits can be more specifically targeted towards certain groups. Selected BMU officials should be trained in areas such as general business management, simple accounting, and income generation. Training and awareness on the specific impacts of certain fishing practices and on alternative methods could be given to groups of fishers, or training on post harvest handling of catches and prevention of losses given to processors. Educational packages can be designed for schools and can be disseminated through local teachers or church groups. The training offered should respond to the stated needs of the lakeshore fishing communities and the industry and should be developed in conjunction with BMUs and other community organisations, and should continue for a total of five years.

Indicative budget

Costs outlined below are indicative and have been slightly overestimated to allow for unforeseen expenses or items:

Item	**US$**
Purchasing and equipping four mobile units @ 75,000 each	300,000
Running costs (5 years @ $10,000 per unit per year)	200,000
Staff costs (12 persons for 5 years)	360,000
Staff expenses (12 persons for 5 years)	200,000
Development and production of educational materials	40,000
Total	**1,100,000**

Monitoring and evaluation

The effectiveness of the mobile training units can be judged on (among others) the following criteria:

- Number of landing sites / BMUs / community organisations visited
- Number of training courses given
- Number of persons given training

- Feedback from user groups as to effectiveness of training
- Feedback from Fisheries Division field staff as to level of awareness of fishers and others in the industry
- BMU accounts and other documentation
- Periodic review of training effectiveness by Project Staff

Constant monitoring of the activities and effectiveness of the units will be carried out by the Fisheries Division, Project Staff members, Project Review teams etc. The staff of the training units themselves will be expected to keep detailed records of training carried out and of expenses incurred and will be trained to carry out these functions in the initial staff training period.

Potential partners
Staff of the Fisheries Division, based in the three region should be involved with/without relevant NGOs, plus BMUs, fishers, fish processors and traders, schools.

Timeframe: FI 2 - Mobile training units for BMU business and environmental management training

Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Activities																				
Design specifications for training units and equipment																				
Tendering and procurement																				
Recruitment of staff																				
Staff training																				
Design of educational materials																				
Trial training period & feedback from user groups																				
Full scale training																				
Review and evaluation, with feedback from user groups																				
Additional staff training if required																				
Final evaluation																				

Summary

FI 2 –Mobile training units for BMU business and environmental management training

Collaborators: Fisheries Division, NGOs, BMus, fishers, fish processors and traders, schools.

Objectives: To provide training and awareness raising in a wide range of business, environmental and fishery related issues.

Beneficiaries: BMUs, fishers, fish processors and traders, schools.

Budget (indicative): US$ 1,100,000

Procedure: Create four mobile training units, under Publicity Dept. of Fisheries Div., based in all three lake-side regions, each with a 4x4 vehicle, generator, projector, information panels, etc., with three staff (driver/tech plus 2 educators).Unit to provide training and information on environmental, fisheries management and business/micro-finance issues. Most major landing sites visited a least once per year.

Timeframe (indicative)

Design and procurement of units, training of staff - 12 months.

Ongoing operation of training units – 2-5 years.

Milestones

1. 1. Recruitment of staff
2. Delivery of vehicles and equipment
3. Training completed
4. Training commences
5. Feedback and evaluation of effectiveness of training.

FI 3 – Creation of two Regional Aquaculture Demonstration Centres (RADCs)

Current status

At present aquaculture in the LVB of Tanzania is under-developed. However, considerable potential exists, particularly in the Mara and Kagera regions where the following conditions make aquaculture a viable option:

- Existence of suitable land, with impermeable soils and with year-round water supply;
- Some existing fish farms, though only on a very small scale; consequently there is an awareness of aquaculture as a means of generating money or food;
- Knowledgeable scientific staff and extension workers, particularly at TAFIRI;
- A good basis of research already undertaken;
- Considerable interest from NGOs and church groups in developing aquaculture;
- Decline in wild fish supplies from Lake Victoria and a perceived need to reduce fishing pressure;
- A ready market for fish, both at home and abroad.

However, due to a number of reasons, there is little actual production of fish from aquaculture in the area. Some of the reasons given during discussions include:

- The lack of effective demonstration, training, advice and dissemination of information;
- Poor supply of high quality fingerlings; many of those that are used show very poor growth rates;
- Shortage of locally produced feed;
- Shortage of credit facilities.

Concept and beneficiaries

It is proposed that two Regional Aquaculture Demonstration Centres (RADCs) are built, one in Kagera District and one in Mara District. The main benefits envisaged are an increase in the amount of fish produced from aquaculture in the LVB and a resulting improvement in food security and wealth of lakeside communities. Other benefits may include the reduction in fishing pressure on wild stocks, with the accompanying reduction in environmental damage caused by those fisheries; a reduction in the imports of bait fish; the production of high quality fingerlings for use across the region and perhaps for export to neighbouring countries; development of a fingerling industry by private sector along with the production of locally sourced fish feed, thereby reducing dependence on imported feed. Finally, the activity will result in improvements to agricultural output through the development of integrated systems.

Proposed activity

Sites for the two RADCs will be chosen during later development, but it is likely that they will be fairly close to major towns and will have good road access and adequate infrastructure. The RADCs might be run in a joint venture between the Fisheries Division and the University of Dar es Salaam, though some NGO involvement will be necessary. The main aims of these RADCs will be to:

- Provide focal points for the demonstration of integrated aquaculture techniques;
- Provide advice to potential or existing fish farmers;
- Demonstrate the production of high quality fingerlings with the aim of stimulating private sector hatcheries which will take over and spread this role;
- Demonstrate the production of nourishing fish feed made from locally sourced materials with the aim of stimulating private sector feed production factories which will take over and spread this role;
- Develop new techniques for the production of fish on a scale suitable to the region.

The RADCs will serve primarily as centres for education and dissemination of information, though some research and development may also take place. Training courses will be developed to meet the immediate needs of potential and existing fish farmers in the districts. Training will be given on the complete range of skills necessary to create a viable aquaculture unit, including site selection, pond construction and maintenance, stocking, fertilising and feeding, harvesting the ponds and post-harvest care of the product, disease control, business management and a wide range of other topics. Free advice will be

available and outreach workers will be provided with transport to visit ponds and provide on-site advice and suggestions. Potential groups of fish farmers or investors will be advised on the availability of credit through the project and relevant training to enable them to take up and manage the credit. Collaboration between government institutions, university, NGOs, local government and community groups will be necessary for the success of these RADCs.

It is envisaged that two species, the Nile Tilapia (*Oreochromis niloticus*) and the African Catfish (*Clarius gariepinus*) will be the main demonstration species; both are already farmed in Tanzania and both have a ready market. The Catfish is increasingly used as bait in the longline fishery for the Nile Perch and it is reported that serious ecological damage is being caused by the fishery for wild specimens. It is possible that techniques for seasonal production of the Catfish in rice paddies can be developed. The techniques of aquaculture integrated with farming will be demonstrated and developed. This involves the use of farm grown fish feeds, the use of animal manure to fertilise the ponds, annual rotation of ponds between fish production and crop production when drained; production of ducks in the ponds and a range of other activities. Environmentally friendly technology such as wind-driven water pumps should also be demonstrated. The scale of the RADCs will be decided at a later stage, but it is envisaged that there will be a main building with offices and classrooms, minor buildings for hatchery and feed production, workshops, storerooms and a dormitory. At least 6 ponds of an area of 400 m^2 and a few minor ponds for broodstock etc. will be needed in order to provide the necessary demonstrations.

Ultimately the RADCs will be partly self-funding through sales of fingerlings, fish feed and harvested fish, but will require significant additional funding from the Project to maintain and improve services.

Indicative budget

Costs of this component are very difficult to estimate with any degree of accuracy due to not knowing the cost of suitable land, or if, indeed, this might be a contribution towards the project from local government or the local community. The scale of the intervention is yet to be decided, so it is suggested that a figure of US$ 1,000,000 is allocated to land purchase and infrastructure for the two centres (ponds, buildings etc.). A five year intervention is suggested after which new sources of funding should be sought if it is considered that the RADCs are worthwhile.

Item	**Estimated cost ($)**
Land purchase, buildings and ponds	1,000,000
Vehicles (2 cars, 2 motorcycles) and running costs for 5 years	150,000
Staff costs (10 staff in total)	600,000
RADC running costs, 5 years	100,000
Educational materials and other costs	150,000
Total	**US$ 2,000,000**

Any monies made through sales of fish, fingerlings or feedstuffs have not been taken into account in the preparation of this budget.

Monitoring and evaluation

It is recommended that once the RADCs are built and functioning, there will be an annual appraisal of their effectiveness. This could be carried out by a committee comprising Project Staff, TAFIRI, Fisheries Division, NGOs etc. The staff of the training units themselves will be expected to keep detailed records of training carried out and of expenses incurred and will be trained to carry out these functions in the initial staff training period.

Indicators of the success of the intervention could include:

- Number of individuals trained or advised;
- Number of new ponds constructed;
- Output of farmed fish in the district;
- Number of site visits made by RADC staff;
- Number of fingerlings sold;
- Quantity of fish feed sold;
- Credit uptake;
- Output of fingerlings or fish feed from private sector.

Potential partners

TAFIRI, NFFI, NGOs, church groups and potential and existing fish farmers as well as private sector developers who wish to invest in fish farming, production of feed or fish hatcheries for production of juvenile fish. Input from the Lake Victoria Research (VicRes) Initiative, from Kajjansi National Fisheries Resources Research Institute (Kenya) would be beneficial since they are involved in a SIDA-funded tilapia research programme.

Timeframe: FI 3 – Creation of two Regional Aquaculture Demonstration Centres (RADCs)

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Site selection (including EIA procedures)																				
Design of RADCs																				
Tendering and procurement																				
Building of RADCs																				
Recruitment and training of staff																				
Fully operational demonstration ponds & education centre																				
Operational fingerling hatchery																				
Operational feed manufacturing unit																				
Evaluation events																				

Summary

FI 3 – Creation of two Regional Aquaculture Demonstration Centres (RADCs)

Collaborators: TAFIRI, NFFI, NGOs, Church groups

Objectives: To provide demonstrations and advice on all aspects of small land medium scale pond aquaculture. To provide a source of good quality fingerlings (juvenile fish) and of good quality fish feed.
Beneficiaries: Potential and existing fish farmers. Private sector developers who wish to invest in fish farming, production of feed or fish hatcheries for production of juvenile fish.
Budget (indicative): US$ 2,000,000

Procedure: Site selection in Mara region (e.g. Tarime) and Kagera (e.g. Muleba); identification of collaborators and construction of facilities (e.g. as in Nancio); full training given in all aspects of fish farming of Tilapia and African catfish (incl. feed preparation and culture of live bait). Sites to be partly self-funding eventually through sale of fingerlings, feeds and broodstock fish.
Timeframe (indicative)
Site selection, design & building - 18 months.
Staff recruitment and training - 12-18 months
Fully operational RADC - 18 months to 5 years
Milestones
1. Site selection and land purchase
2. Building work starts
3. Building work complete
4. Staff recruited and trained
5. First demonstration event
6. Fully operational RADC

FI 4 - Internationally accredited chemical testing facility at National Fish Quality Control Laboratory, NFFI, Mwanza

Current situation

Fish export from Lake Victoria is an important component of the Tanzanian economy. To enable exports, particularly to EU countries, it is necessary to provide evidence that the product is of an acceptable standard with respect to bacteria and chemicals (heavy metals, pesticides, persistent organic pollutants). At present there is laboratory at NFFI in Mwanza that is capable of microbiological testing of fish samples to international standards. It is either already internationally accredited nor is currently going through the accreditation process. However, there is no facility for testing for chemical contamination in the export samples; at present samples are sent to South Africa for testing which is a costly and time-consuming affair.

Concept and beneficiaries

It is proposed that a chemical testing facility is created at the National Fish Quality Control Laboratory at NFFI in Mwanza. The benefits that would accrue from such a facility include:

- Cheaper and faster testing of samples;

- The possibility of revenue generation by becoming the accepted laboratory for the region; it is reported that there is no such facility in neither Kenya nor Uganda;
- The use of the facility for testing other agricultural export products and in country control and independence over the entire fish products testing process.

Proposed activity
Establishing such a facility will necessitate the following steps:

- Building or renovation of laboratory space;
- Procurement and installation of necessary equipment (notably a mass spectrophotometer);
- Training of staff to international standards;
- Accreditation through an internationally recognised body or process.

It is envisaged that, once established, the facility should be self-funding through charges to the fish export industry. It may also be possible to take on sampling contracts from other sectors (e.g. agriculture) or from other countries in the region.

Indicative budget
Costs outlined below are indicative.

Item	**US$**
Renovation or building of laboratory space	50,000
Purchase of equipment and materials	250,000
Staff training	150,000
International accreditation	50,000
Total	**500,000**

Monitoring and evaluation
The ultimate aim of this intervention is the creation of an internationally accredited chemical testing facility. Consequently, the most significant milestone, and the point at which the intervention can be said to be successful, is the awarding of the accreditation. Once this is achieved, the following criteria might be used to judge the success or otherwise of the new facility:

- Numbers of fish samples tested;
- Number of samples tested from other countries;
- Numbers of samples sent abroad for testing;
- Financial accounts of the facility.

Potential partners
NFFI.

Timeframe: FI 4 - Internationally accredited chemical testing facility at National Fish Quality Control Laboratory, NFFI, Mwanza

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12
Design stage												
Renovation / building works												
Procurement and installation of equipment												
Staff recruitment and training												
International accreditation process												
Fully functional facility												
Evaluation events												

Summary

FI 4 – Internationally accredited chemical testing facility at NFFI, Mwanza

Collaborators: NFFI

Objectives: Creation of a chemical testing facility to enable testing and certification of fish products for export.
Beneficiaries: Fish processors and exporters.

Budget (indicative): US$ 500,000

Procedure: Building or renovating of laboratory space and procurement of equipment (mainly a mass spectrophotometer). Training of technicians and staff, by qualified experts (e.g. from UDSM), and accreditation through the internationally recognised authority. Once established, should be self funding through charges to the fish export industry, also from neighbouring countries.
Timeframe (indicative)

Design and build laboratory - 9 months

Procurement and installation of equipment - month 6 to 15.

Staff recruitment and training - 12 months
International accreditation process - after 21 months
Milestones

1. Laboratory built and equipped
2. Staff recruited and trained
3. International accreditation

FI 5 - Improved infrastructure at selected fish landing sites

Current status

There are a large number of sites where fish is landed from the Tanzanian sector of Lake Victoria. Very often these are in remote areas with little or no fisheries infrastructure and with poor communications. Consequently the quality of the catch often suffers, due both to the poor and unhygienic facilities at the landing sites and to the length of time it takes for the fish to reach its next destination (factory, processing area or market). Additionally, the widespread locations of the landing sites makes it difficult or impossible to collect vital fisheries statistics and to enforce regulations on fishing gear and minimum landing sizes of fish.

It is reported that the LVFO, through the EU Project "Implementation of the Fisheries Management Programme" (IFMP), is currently improving basic infrastructure at a number of landing sites – this was originally set at 6 sites, but may now be increased to 18 with a reduction in the range and consequent costs of facilities at each site.

Concept and beneficiaries

The aim is to develop improved infrastructure at selected landing sites with the following expcted benefits;

- A reduction in post-harvest losses;
- An improved quality of fish through less contamination, better storage and processing facilities and faster access to markets;
- Better facilities for BMU involvement in co-management of fisheries, improved fisheries data collection and compliance with regulations;
- The creation of opportunities for private sector involvement in activities such as ice and gear supply, transport, marketing etc.

Proposed activity

This intervention aims to build on the successes and lessons learned from the infrastructure component of the IFMP. Basic infrastructure will be built at 16 selected landing sites in co-operation and consultation with BMUs, local community groups and local and district government. Suggested improvements should include (but are not necessarily restricted to):

- Public toilets with soakaway;
- Provision of clean water for washing fish;
- Floating pontoon and jetty for offloading catches away from shore;
- Insulated cold store for fish and ice storage;
- Basic offices for BMU;
- Banda or covered storage area;
- Rubbish disposal facilities;
- Fish drying / processing areas;
- Security fencing.

Criteria for site selection have already been produced under IFMP; it is suggested that these are reviewed and adopted if thought adequate. Lessons

learned from IFMP infrastructure development must be taken on board in the design and implementation of this project intervention.

It is suggested that this is a two – phase intervention, with 8 sites being built in phase 1 and a further 8 in phase 2, which will start after the initial sites have been monitored. This makes the process of infrastructure development an adaptive process, with each phase learning from the one which went before it.

This development should take place in partnership with the stakeholders, particularly the BMUs and LAs. It might be possible for some arrangement to be worked out where the LAs make a contribution (such as land or improved access) and the BMUs provide some of the labour required. This type of partnership gives a sense of community and stakeholder ownership which goes a long way to ensure the success of such developments.

Indicative budget
Infrastructure development under the IFMP programme has been estimated at costing around US$ 100,000 per site. To allow for inflation and improvements to the IFMP concept and design it is suggested that the figure of US$ 125,000 is allowed for each site in this current project. Consequently each of the two planned phases would cost US$ 1,000,000, with a total cost of US$ 2 million.

Monitoring and evaluation
Construction works will be monitored by the building contractors and will be carried out to the time frame and specifications agreed in the contract. Indicators as to the efficiency of the sites and their suitability can include:

- Numbers of fishers/boats/traders using facilities;
- Volume or value of fish landings through the site;
- Average prices of fish compared with other sites;
- BMU and/or LAs' revenues from site;
- Improved quality of fish;
- Improved water quality;
- Level of private sector investment in fisheries related businesses.

Potential partners
These include primarily the BMUs, together with LAs and the Fisheries Division.

Timeframe
It is anticipated that the Phase 2 sites would be completed and operational by the end of the expected 5 year project duration.

Timeframe: FI 5 - Improved infrastructure at selected fish landing sites

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Review of IFMP sites																				
Site selection Phase 1																				
Legal negotiations / contracts																				
Construction phase																				
Phase 1 sites operational																				
Review of Phase 1 sites																				
Site selection for phase 2 sites																				
Legal negotiations / contracts																				
Construction phase																				
Phase 2 sites operational																				
Evaluation																				

Summary

FI 5 – Improved infrastructure at selected fish landing sites

Collaborators: BMUs, LAs, Fisheries Division

Objectives: Improvements in fisheries infrastructure at 16 selected beach landing sites.

Beneficiaries: BMUs, fish processors and traders, private sector investors, Fisheries Division.

Budget (indicative): US$ 2,000,000

Procedure: This is an extension of a LVFO activity whereby 6-18 landing sites will have improved infrastructure (incl. toilets, clean water on tap, floating pontoon or jetty, insulated cold storage, basic offices for BMU, covered storage area, waste disposal mechanism, fish drying/processing areas and security fencing.

Timeframe (indicative)

Phase 1 construction starts - 12 months, sites operational - 24 months; Phase 2 construction starts - 42 months; Phase 2 construction complete - 56 months.

Milestones

1. Start of construction
2. Phase 1 sites operational
3. Review of Phase 1
4. Phase 2 construction starts
5. Phase 2 sites operational

3.4 Mining

Main objective: To identify potential for mining and processing with a view to add value to exports and suggest strategies to maximize profit for artisanal miners and their protection from cartels.

Progress

Desk and Dar es Salaam based studies and visits were combined with site visits to Williamson Diamonds Limited, Mwadui, Mabuki, Ng'hanwale and Kahama. Meetings were held with local and national representatives of the mining sector (see Annex 4.4) with the objective to evaluate any work that has previously been undertaken, and assess the current situation of mining in the LVB and the status of available information (including geological maps). During the visit to selected sites in the LVB small-scale miners were interviewed and mining methods were investigated. The Zonal and District Mines officers were consulted and large scale mining companies were contacted with a view to establish their interaction with the small-scale sector and the possibilities to develop a healthy and mutually beneficial co-operation.

BACKGROUND

The study revealed that the small-scale mining (SSM) industry is an important sector that employs several thousands of people in the project area. Many more depend on this activity as either dependents or as service providers to the SSMs. This constitutes an important economic activity in the area and it should be an essential part of a strategy to uplift the wealth of the inhabitants. However, in spite of considerable visible activity, there are few official records about the artisanal mining sector.

Examination of Bank of Tanzania (BoT) records show that no gold (the principal mineral being mined) was produced until a BoT buying programme from artisanal miners was initiated in the 1980's and a production of 10 tons per annum was recorded. When the buying programme was terminated, the recorded gold production returned to an insignificant level. With the advent of the Meremeta buying project (a joint venture between the TPDF and private South Africans) a very similar pattern emerged. At the end of each of these buying projects, the officially recorded output showed that production had ceased, whereas the artisanal miners, who produced this gold, continued working but found other channels to sell the product.

Most of the sector's output is marketed through informal channels and, therefore, it is impossible to accurately measure employment figures, the volume of trade, its value and its importance for the Tanzanian economy. To address this sector, it is important to understand the reasons for this contradictory situation and to develop a sound strategy and desirable reforms.

The development of the artisanal sector has been made a priority of the Ministry of Energy and Minerals in 2006. This desire on the part of the Government is expressed more formally in various reviews and policy documents (e.g. National Mining Policy, Kipokola Commission, National Poverty Alleviation Policy and other documents). A division of the Mining Act is aimed specifically at small-scale miners. Under the Mining Act of 1998 all producers should be licensed under Part IV, Division D of the Act that provides for Primary Licences for small scale citizen miners. These producers, in turn, should sell their output to Dealers or Brokers Licenced under Part V of the Act. An alternative channel, albeit unlikely, is that the SSM exports directly to an overseas buyer. Both these channels contemplated under the Mining Act are such that all sales of the SSMs output will be subject to 3% Royalty (or 5% in the case of Diamonds). In practise these legal requirements are largely avoided which places the SSM effectively in the informal sector.

PROPOSED ACTIVITIES

MI 1 – Detailed economic survey of SSMs (to promote better integration into the formal sector)

Current status

As described above, small scale mining activities presently fall within the informal sector of the economy and hence no reliable data is available to evaluation its contribution to economic growth and poverty reduction. This leads to an under-representation of the contribution of the mining sector in the system of national accounts and the calculation of the GDP and GNP.

Concept and beneficiaries

The aim of this project is to provide a detailed examination of how SSM product is sold and channels followed thereafter, and attempt to integrate SSMs into the formal economy. The sites and communities to be involved need to be

carefully selected in the initial year, then with two full subsequent years of engagement. It is suggested that the project collaborate with a piloting initiative near Shinyanga currently being proposed by the large-scale mining company De Beers, designed to integrate the artisanal diamond miners into the formal economy using modern IT coupled with competitive buying prices and access to credit facilities.

An economic analysis will be undertaken to demonstrate the precise contribution of the sector to the economy and it will also demonstrate the losses to the economy by virtue of the informal nature of the trade. Conclusions can then be arrived about the correct strategies to both maximize the benefit to the SSM and also bring the trade into the formal sector. Opportunities for addition of value and for wider gains to the SSM and economy at large will be seen at this stage. The findings of this project activity will have relevance to SSMs nationally.

This project activity could potentially provide an example for further work in the sector and is directly relevant to the study area and should be followed closely since it has the potential to be expanded and to be relevant to other natural resource users (e.g. fishers, farmers) in the whole project area.

Proposed activities
The activity should begin with a detailed economic analysis of the SSM sector in the LVB through a survey among small-scale miners, investigating employment, sale and income figures. Relationships will have to be generated with the SSMs and the individuals in the chain of transactions. A survey shall include environmental practices and health aspects and the examination of the chain of transactions from the SSM through to the ultimate purchaser of the product should follow to allow an assessment of where the main benefit of production lies. The effect of the tax regime on the behaviour of the SSM will be a point of particular examination.

Indicative budget
The indicative budget for this project is US$ 300,000. This comprises the annual salary for two senior staff (specialists in mining and economy) at $25,000 and annual cost for the two years of SSM community initiative of US$ 50,000 plus miscellaneous costs of US$ 50,000 for travel etc.

Monitoring and evaluation
Since this is a research activity there is no monitoring or evaluation required. It is recommended that they SSM survey be out-sourced to a specialised research institution.

Potential partners
Research institution or Consulting Firm, Small scale miners, Bureau of Statistics, Madini, Research Institutions, Local Authorities, Mining Industry Association.

Timeframe: MI 1 – Detailed economic survey of SSMs (to promote better integration into the formal sector)

Quarters	1	2	3	4	5	6	7	8	9	10	11	12
Activities												
Development of detailed ToRs for the study												
Sourcing and contracting of a suitable research institution												
Survey and sample design and testing of questionnaire												
Site and participating community selection												
Conduct study												
Data entry and analysis												
Publication and dissemination of results and final evaluation												

Summary

MI 1 – Detailed economic survey of SSMs
(to promote better integration into the formal sector)

Collaborators: SSMs, LAs, Madini and private sector.
Objectives: Provide a detailed examination of how SSM product is sold and channels followed thereafter, and attempt to integrate SSMs into the formal economy.
Beneficiaries: SSMs and LAs.

Budget (indicative): US$ 300,000

Procedure: Collaborate with a piloting initiative near Shinyanga currently being proposed by De Beers (and/or other sites, as necessary), designed to integrate the artisanal diamond miners into the formal economy using modern IT coupled with competitive buying prices and access to credit facilities.
Timeframe (indicative)

Study period for 2 senior staff (mining and economist) – 3 months
Co-piloting initiative – 3 years.
Milestones

1. Detailed understanding of informal SSM trade.
2. Willingness of SSMs to join the piloting scheme.
3. Majority of SSMs participating in the scheme.

MI 2 - Improvement of equipment and training available to SSM

Current status

The SSM operates with very crude and ineffective equipment. SSMs are unable to operate any more sophisticated machinery in an effective manner. This situation does not only reduce production efficiency but also frequently creates health risks and occupational hazards.

At the time of writing, the Tanzania Miners Trust and the Southern Africa mining company Precious Metals and Minerals (PMM) had recently signed a joint venture of US$ 2.5 million aimed at empowering small-scale miners in the acquisition of expertise, competence and technology. This positive development needs verification so that lessons learnt can be shared.

Concept and beneficiaries

There are two primary areas that should be addressed to improve the productivity of the SSM. Firstly, the improvement of equipment used in the actual extraction of ore (mining) and secondly, the extraction of the product from the ore in an efficient and complete manner (processing). Both areas can involve complex and costly equipment even at the SSM level. It is therefore important to select improvements sustainable and affordable to the SSM.

The aim of the project is to increase productivity and safety of small scale mining leading to improved livelihoods for the miners. Fabrication capacity will be developed so that cost effective and appropriate machinery may be supplied to the SSM. A micro-credit facility will be set up to enable the miners to purchase the equipment.

Proposed activities

Undertake a detailed examination of how SSMs currently extract the ore and final products. This will be used as a basis to assess the levels of appropriate equipment, cost and training. A careful evaluation of the accessibility of any technology is necessary so that a sound judgment on the sustainability can be made. Furthermore, the affordability must be gauged in relation to the financial support that the SSM will be able to access. Subsequently, a strategy to deliver training to the SSMs in a cost effective manner will be formulated.

After identifying the appropriate equipment demonstration units will be fabricated in local engineering works. Appropriate materials will be designed and used in training.The objective of this will be to impart the skills in this fabrication locally. The project will help train and support miners to obtain micro-credit facility and training will provide knowledge on mercury poisoning, water recycling, HIV/AIDS and malaria prevention – all matters that will improve the quality of SSMs' lives. The sites to be selected will depend on the participation, but two or three are envisaged.

Indicative budget
Annual costs include materials US$ 30,000; staff fees US$ 20,000; and transport costs US$ 15,000. For a period of five years the overall budget should not exceed US$ 325,000.

Monitoring and evaluation
The monitoring of this project should be undertaken by a specialist with experience in the small scale mining sector, or an economist appointed by a local NGO. The monitoring of training activities should be an integral part of the training programme conducted by the respective training institutions.

It will be required to keep records of the number of participating miners, key health data, equipment use, fabrication data, accident records etc. Environmental aspects can be monitored through an attitudinal survey among the miners to assess how their knowledge and attitude has changed through the project and an independent environmental impacts assessment at the mining sites frequented by small scale miners participating in the project.

There shall be a mid-term (after 10 quarters) and a final evaluation (after 20 quarters). Training events should be monitored and a baseline survey needs to be conducted to establish changes in income of the participating mining households. The monitoring of training events and the baseline survey should be outsourced to a specialised institution. The baseline survey and the monitoring programme need to include the same indicators so that changes over time can be assessed.

Potential partners
SSMs, Madini and local manufacturing expert from UDSM and the private sector.

Timeframe: MI 2 - Improvement of equipment and training available to SSM

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design and planning																				
Design of monitoring programme																				
Staff recruitment and training																				
Selection of project sites and groups of miners																				
Baseline survey																				
Design of materials																				
Setting up of micro-credit facility																				
Demonstration of equipment and training																				
Continuous monitoring																				
Evaluation																				

Summary

MI 2 – Improvement of equipment and training available to SSMs.

Collaborators: SSMs, Madini and local manufacturing private sector.

Objectives: Provide cost-effective equipment training to SSMs.

Beneficiaries: SSM and LAs.

Budget (indicative): US$ 325,000

Procedure: First, a detailed examination of how SSMs currently extract the ore and final product is needed, to be used as a basis to assess the levels of appropriate equipment, cost and training required. Fabrication of appropriate machinery will be required and this capacity must be developed in the area. Demonstration units fabricated in local engineering works are needed. The objective of this will be to ensure that such equipment is able to be fabricated, to impart the skills in this fabrication locally, to provide resources to conduct training.

Timeframe (indicative)

Develop relationship with SSMs – 3 months (year 2).

Fabrication and testing – 6 months.

Equipment demonstration - one year.

Monitoring – ongoing.

Milestones

1. Established SSM participating target groups.
2. Design and manufacture of equipment.
3. SSMs groups obtaining micro-finance to purchase equipment.

MI 3 - Improvement of environmental, social and health awareness

Current status

The SSM sector in the project area is characterized by environmental degradation, poor living conditions caused by a lack of basic infrastructure and high level of poverty. Ill-health, especially HIV/AIDS and malaria are common.

Concept and beneficiaries

The main objective is to gain an understanding of these issues as they affect the SSM as a basis to formulate a strategy to improve their living condition and health situation. Improvement of environmental and health awareness will be integrated into the previous project on provision of improved machinery so as to achieve higher acceptance.

Although small scale miners are the primary beneficiaries, good environmental practice benefits the whole community. The improved health of SSMs will constitute a lesser drain on already challenged health services and will also enable higher productivity of the sector.

Primary beneficiaries of this project are the small-scale miners, but also the community at large will benefit from better environmental conditions and health awareness of the population.

Proposed activities
The plan it to identify the principal environmental issues that need to be addressed, in a number of sites (3 or 4). It is expected that loss of farm land, mercury poisoning and mercury contamination of the soil will be priority issues. However, water management for conservation, separation of process water and potable water will be important aspects as well.

Living conditions in the mining areas could be greatly improved by a few simple interventions. These interventions are to be identified and a cost benefit analysis applied. Much of the findings of this project activity will be good knowledge to be incorporated into the training aspects of the project. The approach of government organs to the sector will be improved by a thorough understanding of these issues such that they can be incorporated. Production of educational material and training of staff within the district authorities, Madini health and environmental disciplines. Training of LAs to conduct environmental, social and health assessments among small scale mining sites and communities will be an additional output.

Indicative budget
The indicative budget for this activity is US$ 200,000, over five years.

Monitoring and evaluation
The monitoring of this project should be undertaken by the LAs. In fact, monitoring capacity should be build within the LAs to continuously monitor and keep records of miners' health and environmental conditions in the area. An EIA should be conducted at the beginning of the project and at the end, as part of the final evaluation to assess changes in environmental conditions through this project.

A household baseline survey can assess social, economic, health conditions of mining households, as well as environmental awareness and attitudes. The survey should be repeated at the end of the project as part of the final evaluation to assess changes.

The monitoring of training activities should be an integral part of the training programme conducting by the respective training institutions.

Potential partners
SSMs, Madini, district authorities, training institutes.

Timeframe: MI 3 - Improvement of environmental, social and health awareness

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design and planning																				
Design of monitoring programme																				
Selection of project sites and groups of miners																				
Assessment of environmental, social and health issues																				
Baseline survey to assess knowledge and practices as well as health and social situation among mining households																				
Design of training materials																				
Conduct training of miners																				
Conduct training of LAs																				
Set up monitoring programme within LAs to assess changes of miners' health and environmental conditions regularly																				
Monitoring of training events																				
Evaluation																				

Summary

MI 3 – Improvement of environmental, social and health awareness

Collaborators: SSMs, Madini, District Authorities, Training institutes.

Objectives: To impart training on mercury poisoning, water recycling, HIV/AIDS and malaria prevention – all matters that will improve the quality of SSM's lives with simple measures.

Beneficiaries: SSM and LAs.

Budget (indicative): US$ 200,000

Procedure: First, identify the principal environmental issues that need addressing; expected that loss of farm land, mercury poisoning and mercury contamination of the soil will be priority areas; water management for conservation, separation of process water and potable water will be an important focus point. Production of educational material, training of District staff and Madini on health and environmental disciplines.

Timeframe (indicative)

Initial assessment and established SSM participating target groups – 3 months.

Completion of baseline surveys - end of year 2.

Design of training materials and methods – start of year 3.

Implementation and monitoring - mid year 3 and ongoing.

Milestones

1. Environmental issues established after first quarter
2. Strategy formulated and training material developed after first six months
3. 500 miners and 20 LA staff trained by the end of year one
4. 1,000 miners and 40 LA staff trained by the end of year two
5. EIAs bring better results than prior to training.

3.5 Transport, Infrastructure and Communication

Main objective: to identify priority investments (both short and long term) in the LVB. Specifically, to assess current status in communication; including road network, railway system, water transport in the region; to examine goods storage infrastructure (including cold storage and go–downs) and identify gaps and propose strategies for improvement. In addition to the general analysis of the current status, the local transport infrastructure affecting each sub-sector (agriculture, fisheries, mining and eco-tourism) will be analysed as part of this task. Both social and economic aspects will be examined. Air and telecommunications (not mentioned in the TOR) will be covered in the study.

Progress

All sectors were examined through visits to the three regions. Each sector is described below separately. Most of the proposed activities require no more than three years for implementation, with some requiring only one year.

Road Sector - BACKGROUND

In addition to site visits, meetings were held with the Ministry of Infrastructure Development (MoID), Tanroads HQ and Tanroads Regional Managers in Mara, Mwanza and Kagera regions. The entire Lake zone area is interconnected

through a trunk road network from the Tanzanian – Kenyan border post at Sirari via Mwanza to Mutukula at the Tanzanian – Ugandian border post. Additional trunk roads connect Rwanda at Rusumo border post and Burundi at Kanazi border post. Today, the major part of the trunk road network surrounding the lake has bituminous surface. The remaining section with gravel surface Usagara (Mwanza) – Geita – Biharamulo – Kagoma (in Muleba district), some 350 km has gravel surface. It should be expected by end of the year 2010 this remaining unpaved section has been bituminised. In addition, the Nyanguge (Mwanza region) to Makutano (Musoma-Mara region) is rehabilitated or resealed by bituminous overlay. All major bridges are in good condition and the loading and width capacity are satisfactory. The cross border traffic and weight restriction legislation is recommended for harmonizing with the view to ease the traffic.

Mara Region

Mara region has a road network of 3,452 km of which 412 km are trunk roads, 709 km regional roads and 2,331 km as district roads. Of the total 3,452 km, 199 km are paved (tarmac) roads, 1,425 km are gravel roads and 1,828 km are earth roads. There are 94 major structures across trunk and regional roads.

According to the road inventory done in 2005, the condition on paved trunk roads is 58% good while 42% is fair. On unpaved roads 50% is good and 39% is fair. For the regional roads 100% of the paved roads and 60% of unpaved are in good condition. For the district roads 10% are in good condition, 20% in a fair condition and 60% in a poor condition. There are as well few roads for forestry, tourism, fisheries, cotton etc. which are not categorised under the above. There are 21 major structures on trunk roads 73 on regional roads. The structures on trunk roads are 90% in good condition while those on regional roads are only 50% in good condition. There are 21 composite bridges structures which are in a poor condition.

The Road Fund has provided Tshs 824 million for routine maintenance, periodic maintenance and spot improvement as well as bridge rehabilitation on trunk road while 665 million were provided on regional roads. STABEX Projects provided 714 million for regional roads. For district roads 750 million were used for routine maintenance, spot improvement, periodic maintenance as well as bridges and culverts. 637 million are set to be used for the road upgrading to be selected.

Mwanza Region

Mwanza region has a road network of 5,636 km of which 407 km are trunk roads, 1087 km regional roads and 4042 km as district roads. Of the total 5636 km, 252 km are paved (tarmac) roads, 2569 km are gravel roads and 2715 km are earth roads. There are 367 major structures across these roads. According to the road inventory done in 2005, the condition of paved trunk roads is 70% good and 60% is good on unpaved roads. For the regional roads 51% are in good condition with exception of the roads on Ukerewe island which are in fair condition only during dry season. For the district roads 394 km are in good condition, 678 km in a fair condition and 278 km in a poor condition. There are as well few roads for forestry, tourism, fisheries, cotton etc. which are not categorised under the above. There are 192 major structures on trunk roads 156 on regional roads.

The structures on trunk roads are in good condition while those on regional roads are only 40% in good condition. There are 19 major structures which are in a poor condition.

The Road Fund has provided Tshs 341million for routine maintenance, 1.4 billion for periodic maintenance and 18 million for spot improvement while 199 million were provided for periodic and major repairs of bridges on trunk roads.

For the regional roads, 366 million were provided for routine maintenance, 332 million for spot improvements and 183 million for preventive and major repairs at bridges. Donors like UNDP and UNCDF support the road network at district level in the region.

Kagera Region
Kagera region has a road network of 1,840 km of which 600 km are trunk roads, 1,240 km regional roads. Of the total 1,840 km trunk roads, 333 km are paved (tarmac) roads, 267 km are gravel roads. Of the total 1,240 km regional roads, 51 km are paved (tarmac) roads, 1,189 km are mainly gravel roads. District road network not reported. No details were obtained on the current budget.

Road Sector - PROPOSED ACTIVITIES

IN 1 - Vehicle washing yards at Musoma, Mwanza, Bukoba (with oil separating units)

Current status
Washing of vehicles are done all over where water is available for such activities. The used water is absorbed locally by ditches, streams and rivers discharging the polluted water into the lake at the end. The concept of environmental friendly washing yards are supported by major players contacted, especially in Mwanza city and other larger towns surrounding the lake.

Concept and beneficiaries
Vehicle washing yards should be established to reduce the pollution of the recipient. The envisaged results are less pollution of the lake waters and its tributaries. The ecology will be improved and the nature in general benefits from a cleaner environment.

Proposed activity
The yards must be paved to allow used water to be collected and oils and chemicals separated from the waste water before discharged into the recipient. The separation can be done mechanically by oil separators.
Local bylaws will be needed to regulate the activities.

Indicative budget
The establishment of the Vehicle washing yards need to cater for small vehicles and larger trucks and trailers. This will require a rather large area located centrally and convenient to the users.

The cost of operating the washing yards may be recovered by hiring out the yards on time based arrangements by the city or town councils.

Item	US $
Land purchase and civil works for 3 washing yards	500,000
Equipment	200,000
Administration	300,000
Total	**1,000,000**

Monitoring and evaluation

The use and serviceability of the washing yards should be appraised on annual basis during the project period to assure the yards are effectively used. The appraisal can be done by the environmental departments in the municipalities and project staff. Indicators for the projects are:

- Number of unauthorized existing yards closed down;
- Quantities of oils and chemicals collected for safe disposal

Potential partners

City and Town councils, NEMC, Tanroads, Road Transporters and bus operators.

Timeframe: IN 1 - Vehicle washing yards at Musoma, Mwanza, Bukoba.

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12
Site selections												
Project design												
Construction												
Bylaws and tendering of hiring out process												
Operation												
Registration and closing down of existing washing stands												
Final evaluation												

Summary

IN 1 - Vehicle washing yards at Musoma, Mwanza, Bukoba
(with oil separating units)

Collaborators: Municipalities, district councils, transport operators and general public.

Objectives: To reduce the environmental degradation of streams and rivers discharging waste water into the Lake.
Beneficiaries: Local fishermen and people using water from the rivers and streams in addition to improved environmental conditions.
Budget (indicative): US$ 1,000,000 for 3 washing yards.

Procedure: Site acquisitions, civil works and provision of equipment. Tendering and selection of operators of the washing yards.
Timeframe (indicative)

Site selection – 3 months; Project design – 6 months; Construction - 6 months; Operational.

Milestones
1. Construction
2. Installation of oil separation units
3. Operational

IN 2 – Provision of safe overnight vehicle parking at five sites (Musoma, Mwanza, Bukoba, Sirari border post and Bunda township).

Current status

The road transport sector has increased significantly over the years, both at the national and international routes. It is seen as a necessity to provide this sector with safe overnight parking facilities, first in the major towns. There is no safe public parking facilities on the road network which can support the commercial traffic. It has been expressed especially from the road user side that such facilities would be much welcomed. The transporters also asked for suitable fuelling facilities along the main roads and not only in city and town centres.

Concept and beneficiaries

Overnight safe vehicle parking should be provided to the transport sector in the project area. The beneficiaries will be the transport sector in general. It will provide a better environment to the drivers and the trailer crews and reduce parking in the streets and residential areas. Toilet facilities will help to keep a cleaner environment.

Proposed activity

The parking facilities must be paved for maintenance reason and a clean environment. The parking should provide sanitarian facilities and catering services for the users as well as safety guarding.

Indicative budget

The establishment of the Overnight safe parking need to cater for trucks and trailers for a night or two. This will require a rather large area located centrally and convenient to the users. The cost of operating the parking area may be re-

covered by hiring out the parking on time based arrangements by the city or town councils.

Item	US $
Land purchase	200,000
Building and Civil works	700,000
Administration	100,000
Total	**1,000,000**

Monitoring and evaluation
The use and serviceability of the parking should be appraised on annual basis during the project period to assure the parking areas are effectively used. The appraisal can be done by the environmental departments in the municipalities and project staff. Indicators for the projects are the number of trucks and trailers which have used the overnight parking.

Potential partners
City, Town and District councils, Tanroads, road transporters and bus operators.

Timeframe: IN 2 – Provision of safe overnight vehicle parking at five sites

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12
Site selection												
Project design												
Bylaws and tendering of hiring out process												
Construction												
Operation												
Final evaluation												

Summary

IN 2 – Provision of safe overnight vehicle parking at five sites (Musoma,Mwanza, Bukoba, Sirari border post and Bunda township).

Collaborators: Tanroads, road transporters, municipalities and district councils.
Objectives: To provide safe overnight parking facilities to the transporters and drivers.

Beneficiaries: The business community, transport operators and public in general

Budget (indicative): US$ 200,000 x 5 = US$ 1,000,000

Procedure: Site acquisitions, civil works; tendering and selection of operators of the parking areas.

Timeframe (indicative)
Site selection - three months; Construction - six months.
Milestones
1. Construction
2. Installation of oil separation units
3. Operational

IN 3 - Kamanga - Sengerema road (~ 50 km)

Current status

The road is a regional road connecting the Kamanga village with Sengerema town. Kamanga village is the landing site for the ferry from Mwanza. The road is approximately 50 km long and is of gravel or earth surface standard. The road passes through an agricultural area and several villages, some located near the lake and which have fishing activities. The road provides an alternative route to the Usagara–Sengerema trunk road route. The road has a significant traffic volume and generally in poor condition due to the high traffic volume.

Concept and beneficiaries

To upgrade the Kamanga-Sengerema road to an engineered regional road standard with bituminous surface (double surface dressing). The upgraded road will provide the users with a better road for transport of agricultural products and fresh fish to the markets or fish factories in Mwanza. It is also a significant transport of people to and from Sengerema town.

Proposed activity

To upgrade the road it needs to be designed and thereafter proposed to be constructed using a contractor hired through competitive bidding. Alternatively a Design and Build approach may be used.

Indicative budget

The costs are based on current cost estimates for road construction in the region.

Item	US $
Studies	200,000
Design	1,000,000
Bidding	100,000
Construction	18,700,000
Total	**20,000,000**

Monitoring and evaluation

The project shall be appraised annually based on the project time frame to ensure the progress of the project.

Potential partners

City and District councils, Tanroads, Transporters and bus operators, Tanzania Port Authorities, Ship operators using the landing site.

Timeframe: IN 3 - Kamanga - Sengerema road (~ 50 km)

Quarters	1	2	3	4	5	6	7	8	9	10	11	12
Activities												
Project Studies												
Design												
Bidding & mobilizaton												
Construction												
Final evaluation												

Summary

IN 3 - Kamanga - Sengerema road (~ 50 km)

Collaborators: TanRoads, District council, Regional secretariat.

Objectives: To upgrade an alternative route to Sengerema town and Development of part of Sengerema district.

Beneficiaries: Transport business, road users and the public in general.

Budget (indicative): US$ 20,000,000

Procedure: To carry out required feasibility studies and provide the road design. Procurement of bids and contract awards. Road construction. Alternatively, a Design and Build approach can be used to reduce the project period.

Timeframe (indicative)

1. Road studies	6 months	2. Design	6 months
3. Bidding	3 months	4. Mobilization	2 months
5. Construction	21 months		

Milestones

1. Design completed
2 Construction completed

IN 4 - Establishment of oil collection centres in Mara, Mwanza and Kagera regions

Current status

The oil and chemical users in the project area use various oils and chemicals in their daily activities. Disposal of oils, chemicals and other hazard wastes are not available to the users, roads, marine, railways, agriculture, various factories and other users. Used oil is either disposed into the local environment or at the best collected in drums and sold or given away to other users in need of the used oil.

Concepts and beneficiaries

The lake environment should be protected from chemical waste and used oil through the provision of oil collection centres. The envisaged results are less pollution of the lake waters and its tributaries. The ecology will be improved and the nature in general benefits from a cleaner environment.

Proposed activity

Oil collection centres should be established in all regions for safe disposal by the industry themselves. Other local centres may be established at district levels or where major oil users are located. They may be the transport fleet owners, civil work contractors, miners, railway operators, ship owners, vehicle workshops, petrol stations etc). The waste oil should regularly be collected and sent for refining and reused or destruction. The operational cost may be recovered through an imposed and adequate fee and the private business. Local by-laws will be needed to regulate the activities.

Indicative budget
The costs are estimated and will only be known after the design is completed.

Item	US $
Site provision	300,000
Project design	100,000
Bylaws	100,000
Construction and equipment	2,500,000
Total	**3,000,000**

Monitoring and evaluation
The use and serviceability of the oil collection centres should be appraised on annual basis during the project period to assure the oil collection are effectively used. The appraisal can be done by the environmental departments in the municipalities and project staff. The single main indicators for the projects is the annual increase in waste oil quantities collected.

Potential partners
City and Town councils, NEMC, major oil consumers and oil companies.

Timeframe: IN 4 - Establishment of oil collection centres

Quarters	1	2	3	4	5	6	7	8	9	10	11	12
Activities												
Site selections												
Project design												
Bylaw study												
Provision of equipment												
Construction of collection facilities and testing												
Final evaluation												

Summary

IN 4 – Establishment of oil collection centres

Collaborators: NEMC, major oil consumers, Municipalities.
Objectives: To create a more pollution free environment on the lake.
Beneficiaries: Users of the lake and lake water consumers.

Budget (indicative): US$ 1,000,000 per unit x 3 = US$ 3,000,000.

Procedure: Establish formalities for collection and disposal of collected oil and provide facilities for physical collection and storage and safe disposal of waste oil collected.

Timeframe (indicative) :
1. Studies 3 months; Design and bylaw study 6 months
2. Provision of equipment 9 months; Construction of facilities 12-15 months

Milestones
1. Design and bylaws completed
2. Construction completed
3. Operational

IN 5 - Road infrastructure Bukoba Port access (4.6 km)

Current status

The Bukoba port access is 4.6 km long and starts at the junction at Rwamishenyi roundabout, passes through the outskirts of Bukoba town and ends at the Bukoba harbour (Customs). The road has a steep section down from the Rwamishenyi roundabout to Hamgembe, passes the hospital and cross the river before passing through the more narrow section before the harbour. The road was improved some 10 years ago and has double surface dressing. The road is on the Regional Manager of Tanroads' list for improvement, but without funding.

Concept and beneficiaries

The road is proposed to be upgraded to an engineered regional road standard with bituminous surface (double surface dressing) with local adaptation as required. Bukoba harbour being the port of shipment for Kagera region a significant cargo load passes over the harbour. Passenger traffic is also significant when the passenger ship docks. An improved access road will make the transport more updated and convenient to the users.

Proposed activity

The road design needs to be updated and thereafter proposed to be constructed using a contractor hired through competitive bidding. Alternatively a Design and Build approach may be used.

Indicative budget

The costs are based on the current cost estimates for road construction in the region.

Item	**US $**
Design review	100,000
Bidding documents and contract procurement	100,000
Construction	1,800,000
Total	**2,000,000**

Monitoring and evaluation

The project shall be appraised annually based on the project time frame to ensure the progress of the project.

Potential partners

Town council, Tanroads, Tanzania Port Authorities, Road transporters and bus operators, Marine Services Company Ltd and other ship operators using the port.

Timeframe: IN 5 - Road infrastucture Bukoba Port access (4.6km)

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12
Design review												
Bidding documents and contract procurement												
Mobilization												
Construction												

Summary

IN 5 - Road infrastructure Bukoba Port access (4.6km)

Collaborators: TanRoads, road transporters

Objectives: To provide faster and safer access facilities to Bukoba Port.

Beneficiaries: The business community, transport operators and public in general

Budget (indicative): US$ 2,000,000

Procedure: Provide the road design. Procurement of bids and contract awards. Road construction. Alternatively, a Design and Build approach can be used to reduce the project period.

Timeframe (indicative)

1. Design review 3 months; Bidding and contract procurement 3 months; Mobilization 2 months; Construction 12 months.

Milestones

1. Construction completed.

Water Transport Sector - BACKGROUND

An assessment was made of the present waterway transport, for both cargo and passengers, around the lake, including private and public operators, bearing in mind that the water level has decreased by more than 150cm in the more recent years. Waterway safety was specifically assessed and included in the study.

There are three main areas for improvement with respect to shipping in Lake Victoria:

a) Vessel quality and operation
b) Port facilities and infrastructure
c) Safety of navigation

All these should comply with National and International legal requirements and licensing. The Consultant has selected not to engage in the inspection of vessels (existing and proposed), though deemed necessary, this was viewed as being beyond the scope of work. Nevertheless it is clear that vessels are currently operating without design, build, manning and maintenance in compliance with many important International Maritime Organization Conventions.

The comprehensive study of the state of Lake Victoria ports (UNECA, 2003) concludes that generally, the deteriorating port infrastructure on LV was among the 'first signs of incompetence of the authorities regarding navigation on the lake'. The study further recommends the establishment of a joint technical management team for the entire lake, rather than separate institutions in each country, and a proposed structure is outlined for a single authority. Only recently in Tanzania, the government-owned ports and vessels have been taken over by the Tanzania Ports Authority (TPA) effective from 1 July 2006. Given this state of flux with respect to ownership and operation, the Consultant strongly recommends that a single overseeing authority (e.g. Lake Victoria Shipping and Ports Authority) be established as a long-term objective, to include representatives from the three countries. This authority should be responsible for overall management of lake activities, construction etc. and might best be coordinated by the EAC. In the absence of a lake-wide authority, the Consultant feels that the three areas listed above should be addressed. The following are short reviews of the first two areas of focus, shipping and infrastructure, both including safety and security aspects.

(a) Vessel quality and operation

Environmental risks associated with shipping including, but are not limited to the following:

- Grounding, stranding and collision Risks
- Fire and explosions risks;
- Accidental and operation spills;
- Air emissions and noise;
- Antifouling toxins;
- Introduction of non-native species; and
- Wake generation and impacts to shores, estuaries, ports and other users.

Shipping operations exist across the lake, principally between Mwanza Port North, Bukoba, Kemondo Bay, Musoma and Nungwe Bay. Operating from Mwanza ports are ten government ships of which four are passenger ships, five are cargo ships and one oil tanker. There are as well eight privately-owned vessels of which six are combined passenger plus cargo and two are purely cargo vessels. Also quite a large number of small boats for shipping, passenger and cargo are plying the lake. There is one government owned ferry plying between Kigongo and Busisi across the Lake bay along the road towards Sengerema and Geita. There are also four privately- owned ferries at Kamanga at the northern side of Kigongo-Busisi ferry area. There are also quite a large number of small boats for shipping, passenger and cargo are plying in the lake. Operating from Musoma port are two privately-owned vessels, purely for oil cargo, from neighbouring Kenya.

The parastatal Marine Services Company Limited (MSC) manages nine vessels on LV, and the company has been earmarked for privatisation (ICC, 2005) resulting in three business units catering for passenger, cargo and ship repair services, the Government retaining ownership of the infrastructure. At present,

none of the vessels currently using the Tanzania LV ports meet international standards for shipping or safety. There is a well-established need to improve the shipping services across the LV, and introduction of new vessels will be overwhelmingly positive through the provision of reliable, regular and safe passage of goods and personnel between the various ports on LV. Such a service will potentially boost the economy by providing better options for fishers and traders to move fish product and others goods across the lake. The effect on reducing the time (hence effectively the distance) of transport of goods to market is one of the many factors that influence where fishers sell their catch. This need is being addressed by the private sector and no proposed activities are included that result in addition of new vessels or removal of older one.

(b) Port facilities and infrastructure

All port terminals and support infrastructure should provide a safe port and safe berth allowing ships to safely approach and depart, to always remain safely afloat and allow the safe loading and landing of passengers, cargo and bulk petroleum products, mindful of ship operating needs.

Musoma Port - There are two docking yards for the ships, one owned by TRC and the other by East Africa Fuel Company (EAFCO). The later is the only which operates for oil business and is privately owned. According to UNECA (2003), Musoma port has a recently-constructed jetty with structural damage and quay walls that have sunk due to undermining by water and lack of maintenance for the ferry access-ramp. All need attention. Beacons and radio communications are available, through fire, rescue teams and facilities are not available. The water depth at docking yards at the lowest depth that forces ships to dock under capacity. No budget information was obtained.

Bukoba Port - There is one berth with mooring facilities on both sides. The harbour has a breakwater made from heavy stones on the outer side. The breakwater has a concrete top and it shows beginning disintegration at some parts. A few beacons are available. Fire, rescue teams and facilities are not available. The water depth at the harbour is shallow and that forces ships to load at under capacity

Mwanza Ports - There are two berths for the ships being Mwanza Port South and North. Mwanza Port (South) is a site for vessel repair, maintenance and wagon-loading activities. The site was originally developed for this purpose but it has not met the full expectations of development and large parts of the site are

barren, neglected and polluted. There are two floating docks for ship repairs and one small ship builder. Ship repairs only are done by formerly TRC Marine Division now under TPA. The water depth at docking yards at the lowest depth thus forcing vessels to operate under capacity. The current budget was not available.

Mwanza Port (North) is the major port facility of Mwanza for transport of goods and personnel. Road and rail access are available and the site is well-placed with respect to markets and the city. The east dock section was functional in July 2000, but sedimentation has occurred since then the current facility requires dredging (see figure opposite). The sediment is derived from the nearby canal of the Mirongo River that has created a small low-lying 'delta' with no land tenure that has become subjected to informal and opportunistic cultivation by a small number of local inhabitants.

The loss of this portion of the dock may not have had a significant impact on shipping services after the sinking of the MV Bukoba as the transfer of goods and personnel at this port is conducted regularly by vessels using the western dock. However, the shore facilities at Mwanza Port (North) are sub-standard for handling passengers and goods (e.g. absence of toilet and passenger facilities, sheltered storage for goods).

The provision of an expanded safe port and safe berth for shipping at Mwanza Port North will make a positive contribution to the trade and economy of the area, as will the improved port terminal facilities for passengers and goods. There are clear charts for navigational purposes as well as modern equipments/navigational utilities are pre-installed in ships for the same purpose. Beacons and radio communications are available. Fire, rescue teams and facilities are not available.

Water Transport Sector - PROPOSED ACTIVITIES

IN 6 – Overhaul of Navigation Safety Provisions

Current status

The navigational facilities at Lake Victoria are below standard or in poor condition. The *Sailing Directions (1986)* which describes the sailing routes between the major ports around the lake needs updating. At the time of writing, it was not clear if there was a marine survey and charting project, purportedly funded by the French Development Agency. The 15-meter EAC vessel RV Jumuiya has been acquired by the Lake Victoria Safety Navigation Project and is expected to reduce the costs of surveys and to improve navigation. The vessel was donated by the UK's Department for International Development. The bathymetric charts (Navigational maps) for safe navigation on the lake are outdated as well and need updating. The expected increasing shipping activities and other commercial use of the lake bathymetric charts will benefit these activities.

Concept and beneficiaries

The aim is to provide a complete overhaul of navigation and safety provisions for the Tanzania portion of the LV, to meet international standards, as detailed for example in IHO (1998) with respect to hydrographic surveys. The main benefits envisaged are upgrading the navigational facilities to confirm to international requirements and standards which in turn will provide safer navigation on the lake both at day and night time.

Proposed activity

With the overall objective of improving navigation throughout Lake Victoria, the following main activities are proposed:

- Provision, repair or rehabilitation of lighthouses and beacons
- Provision, repair or rehabilitation of buoys
- Updating of bathymetric charts

Indicative budget

The estimated costs are a rough estimate only as there is no known contractor or equipment for the proposed dredging work. The cost is based on experience from comparable activities on other projects.

Item	**US $**
Study and Design	200,000
Provision, repair or rehabilitation of lighthouses and beacons	1,000,000
Updating of bathymetric charts	5,000,000
Provision, repair or rehabilitation of buoys	500,000
Maritime radio communication and training	500,000
Search and rescue vessel 1,000,000 x 3 (incl. training)	3,000,000
Improvement to navigation aids	1,500,000
Total	**11,700,000**

Monitoring and evaluation

The project shall be appraised at end of first year based on the project time frame to ensure the progress of the project, with a final evaluation after two years.

Potential partners

Surveys and Mapping Division, City and Town councils, TPA, SUMATRA, MSC and other ship operators.

Timeframe: IN 6 - Overhaul of Navigation Safety Provisions

Quarters	1	2	3	4	5	6	7	8
Activities								
Study and design								
Provision, repair or rehabilitation of light-houses and beacons								
Provision, repair or rehabilitation of buoys								
Updating of bathymetric charts								
Maritime radio communication								
Three search and rescue vessel								
Improvement to navigation aids								
Monitoring and appraisals								

Summary

IN 6 - Overhaul of Navigation Safety Provisions

Collaborators: Government Mapping division, Lake operators, Marine police and fishermen, city and town municipalities, Marine police and fish factory operators.

Objectives: To provide safer navigation on the Lake, through a range of sub-activities, including provision, repair or rehabilitation of lighthouses and beacons, updating of bathymetric charts, provision, repair or rehabilitation of buoys.

Beneficiaries: Ship operators, local fishermen and lake users in general.

Budget (indicative): US$ 11,700,000

Procedure: Study and Design, Provision, repair or rehabilitation of lighthouses and beacons, Updating of bathymetric charts, Provision, repair or rehabilitation of buoys. Consult and verify the Lake Victoria Safety Navigation Project and the French Development Agency.

Timeframe (indicative)

Site mobilization - 6 months; Installation and construction - 6 – 18 months; Bathymetric surveys – 1 ½ years.

Milestones

1. Detailed plans and budget compiled.
2. Construction and surveys completed.

IN 7 – Clearing and dredging of Musoma, Mwanza and Bukoba ports

Current status

Due to the many environmental and ecological changes at the lake the ports are affected by declining water levels, waste disposal and probably to some extent silting reducing the water depth along the berths. This affects the ships sailing and have to carry reduced loads to be able to manoeuvre the ships.

Concept and beneficiaries

The proposed projects are for Musoma, Mwanza and Bukoba ports, to clear and dredge them to increase the depth along the berths and nearby waters at the harbours to required depths for safe operation of the ships when fully loaded. To

increase the number and quality of the passenger and cargo vessels. The business community and marine operators and the general public will be the beneficiaries.

Proposed activity
After a study of the existing facilities the detailed design of the project has to be carried out. In addition to clearing dredging of the ports, in Musoma an expansion of the docking yard is needed to provide docking facilities for more vessels and at Bukoba harbour repair of the breakwater is proposed.

Indicative budget
The estimated costs are a rough estimate only as there is no known contractor or equipment for the proposed dredging work. The cost is based on experience from comparable activities on other projects and should be completed within two years.

Item	**US $**
Study and design	100,000
Clearing and dredging of 3 ports	3,000,000
Expansion of Musoma port	1,500,000
Repair of breakwater at Bukoba port	100,000
Total	**4,700,000**

Monitoring and evaluation
Monitoring and appraisal shall be conducted to verify the number of ports cleared and depth increased to designed depth and completion of expansion of Musoma port and the breakwater at Bukoba port repaired.

Potential partners
City and Town councils, Tanzania Port Authorities, SUMATRA, Marine Services Company Ltd. and other ship operators.

Timeframe: IN 7 - Clearing and dredging of Musoma, Mwanza and Bukoba ports

Quarters	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Activities								
Study and design								
Bidding								
Clearing and dredging of 3 ports								
Expansion of Musoma port								
Repair of breakwater at Bukoba port								
Monitoring and appraisals								

Summary

IN 7 - Clearing and dredging of Musoma, Mwanza and Bukoba ports

Collaborators: City and Town councils, Tanzania Port Authorities, Marine Services Company Ltd, ship operators.
Objectives: To increase the water depth at the harbours for efficient and safe operations.
Beneficiaries: Users of the facilities including the ship operators.
Budget (indicative): US$ 4,700,000
Procedure: After the Study and design of the project bidding for Clearing and dredging of 3 ports will be carried out. The same procedures will be followed to carry out the Expansion work of Musoma port and Repair of the breakwater at Bukoba port.
Timeframe (indicative)
Study, design and bidding - 6 months
Construction - 12 months
Demobilization - 1 months
Milestones
1. Ports fully dredged and repaired.

Air Transport Sector - BACKGROUND

Air transport is increasing around the Lake and an assessment of the current status, expansion plans and handling facilities will be conducted. The study will include cross-lake and international routes for passenger and cargo transport operated by the state and private operators, and existing airports and airstrips will be included in the assessment. The fish export facilities will be particularly addressed.

Tanzania Airport Authority owns and operates most of the airports in the project area. A few other airstrips/ports are operated mainly by the mining companies. Airports in the project area of special interest are:

- Mwanza Runway length ~ 3000 m; Surface: Concrete asphalt
- Bukoba Runway length ~ 1240 m; Surface: Murram (gravel) surface
- Musoma Runway length ~ 1600 m; Surface: Murram (gravel) surface
- Shinyanga Runway length ~ 2000 m; Surface: Murram (gravel) surface
- Rubondo Runway length ~ 1000 m; Surface: grass
- Bunda Runway length Unknown ; Surface: Unknown

Regular flights are operated on Mwanza, Bukoba and Musoma airports while the other airports/airstrips operate unscheduled flights. The airports have limited infrastructure facilities and navigational aid equipment as well as safety and rescue equipment. Mwanza Airport has advanced plans for upgrading of the airport. The airport wants upgrading to handle aircrafts at DC8 levels for fish exports and tourism mainly. The upgrading includes runway extensions, aprons, cold rooms, terminal building and control tower. The airport is and

alternate airport for the up-coming Commonwealth conference to be held in Kampala next year. Financing of the up-grading is not yet concluded. The other airports mentioned have murram surfaced runways which significantly reduce the operations during the rainy season and increase the maintenance costs.

The up-grading of Mwanza airport as mentioned above has reached an advanced planning stage. This project may be requested to assist in provision of some special activities like extension of runways with around 300 m and provision of Global Navigation Satellite System (GNSS) equipment.

Search and Rescue equipment are inadequate. Provision and training of personnel in use of such is much needed. Equipment are diving apparatus, rescue boats, retrieval equipment and communication radios. Navigational aid equipment, non-directional beacon (NDB), are needed for the following airstrips/airports: Rubondo, Ukerewe and Bunda.

Bukoba, Musoma and Shinyanga airports with their murram runways will be significantly improved by having a bituminised runway surface. Bukoba airport has in addition a request for new terminal building. Further, at the west end of the runway a ridge reduce the safe operation of the runway and should be blasted. The blasted rock may be used as fill material for levelling the runway and possible extension.

Air Transport Sector - PROPOSED ACTIVITIES

IN 8 – Provision of search and rescue equipment for Mwanza airport
(Rescue boats, Diving apparatus, Communication radios, Retrieval equipment for DC 8 level planes)

Current status
The up-grading of Mwanza airport has reached an advanced planning stage. This project may be requested to assist in provision of some special activities like extension of runways with around 300 m and provision of global positioning approach equipment, GNSS equipment. Search and Rescue equipment are inadequate. Provision and training of personnel in use of such is much needed. Equipment includes diving apparatus, rescue boats, retrieval equipment and communication radios.

Concept and beneficiaries
The proposal aims to provide search and rescue equipment for Mwanza airport, including rescue boats, diving apparatus, communication radios, and retrieval equipment for DC 8 level planes. Compliance to legislation, safety improvements at the airports will lead to an increase in the number of planes using the facility thus increasing the number of passengers and cargo and boosting commerce. This will benefit many aspects of business in the region, from tourism to trade, import and export.

Proposed activity
Procurement of search and rescue equipments and telecommunication equipment, installation and training at Mwanza airport.

Indicative budget
The various items required to satisfy this proposal need to be carefully costed from a range of sources. Costs for installation and training will also vary depending on sources, and completion time should be under two years. The table below provides a rough estimate.

Item	US$
Procurement of facilities	11,000,000
Training of personnel	500,000
Installation of the equipments	500,000
Total	**12,000,000**

Monitoring and evaluation
The project shall be appraised annually based on the project time frame to ensure its progress.

Potential partners
TAA, marine police, fire brigade and port authorities.

Timeframe: IN 8 - Provision of search and rescue equipment for Mwanza airport

Quarters / Activities	1	2	3	4	5	6	7	8
Procurement of facilities								
Training of personnel								
Installation of the equipments								
Monitoring and appraisals								

Summary

IN 8 - Provision of search and rescue equipment for Mwanza airport

Collaborators: Airport users, TAA, marine police, fish exporters.

Objectives: To meet international requirement and increase the safety on the Lake area.

Beneficiaries: Importers, exporters and tour operators.

Budget (indicative): US$ 12,000,000

Procedure: Purchase of the facilities, installation , training and operating.

Timeframe (indicative)
24 months

Milestones
1. Provision of equipment
2. Training of personnel
3. Establishment of units

IN 9 – Provision of Global Positioning (GNSS) approach procedures
(for Mwanza, Bukoba, Musoma and Ukerewe Airports)

Current status
The main LVB airports in Tanzania have limited navigational aid facilities as well as safety and rescue equipments.

Concept and beneficiaries
To provide GNSS approach procedures for Bukoba, Musoma and Ukerewe airports thereby increasing safety of air traffic, with benefits to passengers and cargo.

Proposed activity
Purchase and install GNSS equipment and procedures at Mwanza, Bukoba, Musoma and Ukerewe Airports.

Indicative budget
The GNSS system required to satisfy this proposal needs to be carefully costed from a range of sources, and, as with installation and training, will also vary depending on sources, but completion should be done within a year. The table below provides a rough estimate.

Item	**US$**
Procurement of facilities	170,000
Training of personnel	10,000
Installation of the equipment	20,000
Total	**200,000**

Monitoring and evaluation
The project shall be appraised at the end of the project timeframe to ensure its progress.

Potential partners
TAA, and the airport operators.

Timeframe: IN 9 - Provision of GNSS approach procedures

Quarters / **Activities**	**1**	**2**	**3**	**4**
Procurement of facilities				
Training of personnel				
Installation of the equipments				
Monitoring and appraisal				

Summary

IN 9 - Provision of Global Positioning (GNSS) approach procedures (for Mwanza, Bukoba, Musoma and Ukerewe Airports)
Collaborators: Airport users, TAA, Airport operators, Marine police.
Objectives: To increase the safety on operating the airports.
Beneficiaries: Airport users, Travellers, tourists, air port operators.
Budget (indicative): US$ 200,000
Procedure: Procurement and installation of the equipments as well as staff training.
Timeframe (indicative)
12 months
Milestones
1. Installation of units.

IN 10 – Provision of Navigational Aid Equipment

(for Ukerewe, Rubondo and Bunda Airstrips)

Current status

The airstrips at Ukerewe, Rubondo and Bunda are operating with limited navigational aid facilities.

Concept and beneficiaries

To provide navigational aids to airstrips at Rubondo Is, Bunda and Ukerewe airports thereby increasing safety of air traffic, benefiting passengers and cargo.

Proposed activity

Purchase and install navigational aids (lamps and reflectors) at three airstrips.

Indicative budget

The navigations aids required to satisfy this proposal need to be carefully costed from a range of sources. The table below provides a rough estimate of the year-long activity.

Item	**US$**
Procurement of facilities	70,000
Training of personnel	10,000
Installation of the equipment	20,000
Total	**100,000**

Monitoring and evaluation

The project shall be appraised at the end of the year based on the project time-frame to ensure its progress.

Potential partners

TAA, and the airport operators.

Timeframe: IN 10 – Provision of navigational aid equipment

Quarters / Activities	1	2	3	4
Procurement of facilities				
Training of personnel				
Installation of the equipment				
Monitoring and appriasal				

Summary

IN 10 – Provision of navigational aid equipment
(for Ukerewe, Rubondo and Bunda Airports)

Collaborators: Airport users, TAA, Airport operators

Objectives: To increase the safety at the airports

Beneficiaries: Airport users, Travellers, tourists, air port operators

Budget (indicative): US$ 100,000

Procedure: Procurement of facilities, installation and training

Timeframe (indicative)
12 months

Milestones
1. Installation of units

IN 11 – Upgrading of Musoma Airport

(runway surfacing and terminal buildings)

Current status

Musoma airport has a murram runway that will be significantly improved by having a bituminised surface. The terminal buildings are rather small and need expansion or new facilities to operate efficiently with an increased number of passengers and cargo.

Concept and beneficiaries

Improvement of the runway and terminal building at Musoma airport
An increase in number of cargo and passenger flights to Musoma and tourist destinations in the north national parks. Safety improvement at the airport will be to the benefit of all local users, boosting travel, commerce and trade.

Proposed activities

Create a bituminised surface on the Musoma airport runway and improve the terminal buildings and facilities.

Indicative budget

The costs of the runway upgrade and building improvement can only be accurately determined once detailed site construction surveys are conducted. Below are provided some rough estimates, for work that should take no more than two years.

Item	**US$**
Feasibility study	200,000
Design and tender	300,000
Construction	7,000,000
Works supervision	500,000
Total	**8,000,000**

Monitoring and evaluation

The project shall be appraised annually based on the project time frame to ensure its progress, with a final evaluation at the end of the second year.

Potential partners

TAA, and the airport operators.

Timeframe: IN 11 – Upgrading of Musoma Airport

Quarters / **Activities**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Feasibility study								
Design and tender								
Construction								
Works supervision								
Evaluations								

Summary

IN 11 – Upgrading of Musoma Airport

(runway surfacing and terminal building)

Collaborators: Airport users, TAA, Airport operators, Marine police.

Objectives: To increase the efficiencies and safety of the airport users.

Beneficiaries: Airport users, travellers, tourists, airport operators.

Budget (indicative): US$ 8,000,000

Procedure: To carry out feasibility study, detailed design, bids and contract awarded for the works and construction.

Timeframe (indicative)

24 months

Milestones

1. Construction and improvement of runway and terminal building

Railways Sector - BACKGROUND

Tanzania Railway Corporation (TRC) operates the central corridor line including the side tracks Manyoni – Singida, Tabora – Mwanza and Kaliua (in Tabora) – Mpanda. The railway is the oldest railway line in the country. TRC is through its holding company Railway Authority Holding Company (RAHCO) planning to give a concession to M/S RITES of India to operate the railway line. The private operator is expected to start operation before the end of 2006.

TRC through its holding company RAHCO will be the owner of the railway facilities. The concessionary will lease the railway facilities and be the operator of the services. Development and new railway links will under the responsibility of RAHCO. New corridor links mentioned were an east-west link Isaka – Kigali and a south – north link Tanzania – Uganda. A fibre optic communication system is also in the planning pipeline. Railway transport on the lakes within and to neighbouring countries is owned by TRC and will be operated by the concessionary. The East African Trade and Transport Facilitation seek to harmonize and remove transit barriers to the landlocked countries. The Isaka container terminal is used in the railway operations.

The locomotives are mainly serviced in Dar es Salaam and Tabora while some shunting locomotives based in Mwanza are serviced there, hence from an environmental point of view there is potential little impact of the railways on the LVB.

Requirements of the railway
Upgrading of the existing railway line is necessary. The cost of upgrading lies with the railway owner, RAHCO. The cost is in the range of nearly US$ 300,000 per km. Upgrading the section Mwanza-Tabora (385 km) is estimated to cost US$ 110 million while the section Mwanza - Shinyanga (184 km) is estimated to cost US$ 50 million. These infrastructure improvements, though highly worthy on environmental and economic criteria, are beyond the scope of LVEMP-2. Similarly, the need to improve bridges on the railway line that do not comply with today requirement and strengthening of bridges are considered by the Consultant as more likely to be funded by the private sector or through other lending mechanisms than through LVEMP-2. Railway crossings are in poor condition and upgrading is much wanted.

Railways Sector - PROPOSED ACTIVITIES

IN 12 – Study to maximise railway benefits

Current status
Tanzania Railway Corporation (TRC) has been operating on the central corridor to Kigoma and Mwanza as well side tracks from Manyoni to Singida. The railway is a very old railway line in the country. TRC through its holding company Railway Authority Holding Company (RAHCO) is in the process of leasing to a

concessionary to operate the railway line. The private operator is expected to start operation before the end of 2006.

Concept and beneficiaries
To develop a thorough and realistic plan on how to best improve the railway network system that supplies the LVB. The UNECA (2003) analysis of rail and road transport links via the Central Corridor (Dar es Salaam to Mwanza) concluded that once rail links has been re-established, this option benefits from fast transit, reduced costs and is a valuable strategy for diversification of sources of supply for neighbouring countries. The Consultant strongly supports this assessment, believing that rail transport should be expanded across all of Tanzania. Commerce and trade (especially bulk cargoes, e.g. fish, agricultural produce and minerals) will benefit from potentially reduced rates compared to road options. Roads will be better preserved for small vehicle use. The reduction in the volume of trucks will reduce congestion and road accidents in the LVB.

Proposed activity
A detailed study to assess railway operations with respect to the LVB.

Indicative budget
The estimated cost of the one-year study is US$ 50,000.

Monitoring and evaluation
The progress will be monitored based on reporting schedules.

Potential partners
Railway operators, TRC and RAHCO, the private sector.

Timeframe: IN 12 - Study to maximise railway benefits

Quarters	1	2	3	4
Activity				
Tendering				
Conduct of study				
Utilisation				

Summary

IN 12 - Study to maximise railway benefits

Collaborators: Government, TRC, transport economists.

Objectives: To determine how best to modernise the railway line and increase efficiency in the operations to and from the LVB.

Beneficiaries: Government, transporters and the general public.

Budget (indicative): US$ 50,000

Procedure: Hire of transport economist company to carry out the studies.

Timeframe (indicative)

12 months

Milestones

1. A detailed plan on how to improve railway transport

Communication Sector - BACKGROUND

The Tanzania Communication Regulatory Authority, TCRA, licenses the communication sector and authorizes individual operators. The operators are today TTCL for the fixed lines and Tigo (Mobitel), Vodacom, Celtel and Zantel as mobile phone operators. TCRA is the owner of the main infrastructure needed like the international gate etc. while the mobile phone operators are the owners of their individual facilities like transmission towers etc. Future telecommunication plans include connecting all regions and districts by fibre optic lines that will also connect the regions in the project area through the fibre optic connections. Further, in addition to GSM introduction of CDMA, Cold Division Multiple Access, may also be a futuristic approach. Broadband is likely to be introduced mainly for data transfer.

The most common transmission today is through microwave radio communication. The radio frequencies allocated by TCRA to the mobile phone operators are limited and may be overloaded. Fibre optics, which has higher transmission capacity, may be used to increase the capacity. To some extent some of the operators are sharing some facilities like Vodacom and Zantel are sharing transmission towers on the mainland. Areas under TANAPA jurisdiction will also share towers as TANAPA is rather restrictive to allow constructions in the national parks.

Future plans include connecting all regions by fibre optic lines. This will also connect the regions in the project area through the fibre optic connections. Further, introduction of CDMA, Cold Division Multiple Access, may also be a futuristic approach. Broadband is likely to be introduced mainly for data transfer.

Communication Sector - PROPOSED ACTIVITY

IN 13 – Provision of training to TCRA staff

Current status
TCRA as a new government authority lacks enough competent staff for their operation.

Concept and beneficiaries
Provide training to TRCA staff so once training is accomplished TCRA will have more competent staff to carry out the job, to the benefit of end users.

Proposed activity
Provide relevant training programme and conduct training to TCRA staff.

Indicative budget
The estimated cost of the training U$S 250,000, being about US$ 100,000 for instructors and US$ 100,000 training materials and 50,000 allowances to staff, over a period of one year.

Monitoring and evaluation
The number of individuals trained.

Potential partners
TCRA.

Timeframe: IN 13– Provision of training to TCRA staff

Quarters	1	2	3	4
Activities				
Selection of staff for training				
Instructors selection				
Staff training				
Evaluation				

Summary

IN 13– Provision of training to TCRA staff

Collaborators: TCRA

Objectives: To increase the efficiencies of communication services.

Beneficiaries: Business communities, travellers, tourists and users of communication services in general.

Budget (indicative): US$ 250,000

Procedure: Routine training to cope with work environment.

Timeframe (indicative)

12 months

Milestones

1. Training completed

Storage Facilities - BACKGROUND AND ASSESSMENT

Attempts were made to investigate storage facilities and infrastructure, godowns and cold stores in the LVB. However, these were unsuccessful at it appears that at principal trading sites around the Lake, private arrangements exist that cater for seasonal and temporary needs for storage. Fish factories and soft drink manufacturers operate refrigeration storage as their needs arise with independent large store owners conducting their own rental of space. Safe and hygienically parking areas for road transporters have been addressed in IN-2 above.

3.6 Eco-tourism

Main objective: The main objective is to identify priority investments (short and long term) in the Lake Victoria Basin, with the specific task of identifying the potential areas of ecotourism and propose strategies for development of these areas in the region.

Progress

The planned Visitor Characteristics Analysis could not be conducted due to the few tourists encountered. Partly this was because the Rubondo Island lodge was closed for renovations. The five days allocated to the task and the virtual absence of tourists allowed instead more time to be dedicated for wider study of relevant tourism sector literature and discussions with key stakeholders (see Annex 4.4). Particular reference was instead made to the four-week field study by Uddhammar and Shechambo (2003), based on a three-expert team with specialties in environmental economics, political science and tourism. They visited all three countries bordering LV in October 2003 and made many recommendations relevant to the present consultancy. These include the need for improvement of quality of services, including speedboat transport, land ownership problems, availability of attractive borrowing rates, the need to improve local management skills, and marketing of ‘the product’. They analysed many

of the major sites and key persons in the industry. In the present study, the Consultant visited some of the sites to re-confirm the reports from studies like the one above and to meet stakeholders in the Regions of Kagera, Mara and Mwanza as well as to meet others in Arusha and Dar es Salaam. In the field, the focus was on sites in Kagera Region and Rubondo Island but because the Team Leader was also the main expert engaged in the eco-tourism component of the Consultancy, this section benefited further from visits to Tarime and Musoma, Bunda and Ukerewe Island. The Physical Tourism Analysis was conducted to assess the available tourist attractions and infrastructure, with visits to attractions and facilities in Tarime, Musoma, Bunda, Ukerewe Island, Speke Bay, Mwanza, Bukoba, Kumachumu and Rubondo Island.

BACKGROUND

The MKUKUTA refers to the "substantial potential for small and large-scale eco-tourism, if done right" to contribute to poverty alleviation and to protect the rich wildlife, by combined tourism-conservation ventures. The Tourism Policy (URT, 1999), under Objective 4.4. highlights the need "to preserve and better manage the country's rich cultural and natural heritage as tourist attractions and for the benefit of present and future generations". It is light of these focus issues that the following suggestions are made. The Tourism Master Plan (URT, 2002) highlights the 'Lake Victoria Hinterland Zone' as one for priority development. The zone is indicated as occupying the southwest portion of Lake Victoria, stretching from the southern part of Speke Bay to Kagera Region, including Mwanza and Rubondo Island. The Plan describes numerous proposed actions, including:

- The need to improve the physical quality of the accommodation sector,
- Identify restoration/conservation needs of historic and cultural sites in priority development zones an implement restoration/conservation measures,
- Establish interpretive/exhibition centres for a number of themes –early man, rock art, village life,
- Establish visitor centres, providing information, toilets and medical facilities at strategic locations.

ICC (2005) also highlighted the need to improve service standards, create more accommodation facilities with international standards, explore eco-tourism opportunities and hotel development in cultural heritage sites and concludes that "there is a major need for training in the tourism sector in Tanzania – and hence opportunities for investment." The report quotes the Group Executive of the largest tourism operator in East Africa, Pollman's and Ranger Safaris, who says that Governments of the region "need to ensure that increased resources for such marketing are made available on a long-term basis" and that "Tanzania needs to improve it's hospitality training". While the field visits confirmed that the LVB on the Tanzania portion does host a number of sites that can potentially offer eco-tourism value, each region has its particular tourist assets.

Makere *et al* (2004) listed 36 major tourist attractions in the region as historical sites, cultural monuments, wildlife, water bodies and wetlands. They iden-

tified a number of short-comings, including lack of up-to-standard accommodation facilities and poor hospitality services, weak tourism infrastructure and electricity, poor waste control and problems of safety and security. These authors also commented on infrastructure, noting that "the region is doing fine in terms of road infrastructure" with the road network in excellent and well-maintained condition, thus "accessibility within the region is easy". The Kagera Tourism Development Association (KATODEA), a recently registered (2004) organization, based in Bukoba, aims at promoting tourism in the Lake Zone, particularly in the Kagera Region.

PROPOSED ACTIVITIES

ET - 1 Training and capacity building for hotel staff

Current status

There is a lack of trained personnel in the tourism industry of LVB and existing training institutes lack capacity and funding. In Kagera Region for example, there is no tourism training centre to equip local aspirants with the necessary skills to effectively engage in this industry. The need to improve training is highlighted by KATODEA (2006a) and the GoT (1999). The Katodea initiative has as a further aim to have "trained 100 persons in various disciplines of the tourism profession to better the service and administration of tourism".

Concept and beneficiaries

Boost tourism hospitality skills in the LVB by supporting training. The tourism industry and local inhabitants in Kagera Region (and other regions, by the movement of interested participants) through increased job opportunities in the local tourism sector.

Proposed activity

Provide grant support for the local tourism training industry through direct funding to existing training institutes (where available) and to other institutions that can conduct effective training (e.g. KATODEA). The courses should be annual and include various levels of teaching and hands-on training, covering catering, bar duties, reception, management, booking and customer care.

Indicative budget

Over five years, this activity requires US$ 1,000,000 as outlined below, with 10% of the overall costs allocated to monitoring and evaluation:

Item	**US$**
Identification of beneficiaries and planning	10,000
Recruit trainers and develop curriculum	10,000
Training costs for fees and equipment and transport	150,000
Monitoring and evaluation	30,000
Subtotal	200,000
Replicate the above for five years	x 5 years
Total	**1,000,000**

Monitoring and evaluation
This should be conducted by qualified personnel to effectively monitor the development of proposed activity and measure the outputs in terms of the quality and quantity of trained personnel.

Potential partners
District tourism officers, NGOs, KATODEA, public and private tourism training institutions.

Timeframe: ET - 1 Training and capacity building for hotel staff

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design and planning	■	■																		
Identification of beneficiaries and planning		■	■																	
Recruit trainers and develop curriculum			■	■	■															
Training					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Monitoring and evaluation				■				■				■				■				■

Summary

ET 1 – Training and capacity building for hotel staff and managers

Collaborators: District offices and private/public training institutes.

Objectives: Increase the number and quality of tourism industry professionals, from hotel staff to managers.
Beneficiaries: Local tourism industry and local residents.

Budget (indicative): US$ 200,000 per year x 5 = US$ 1,000,000

Procedure: Identify suitable training institutes or facilities (focus on Kagera region); promote applications for training; recruit qualified trainers where necessary and conduct annual courses.

Timeframe (indicative)

Establish design, planning and partners – 9 months.

Recruit trainers and students – 3 months.
Conduct courses – ongoing (annual)

Milestones

1. First training course
2. First batch of qualified hotel staff and managers.

ET 2 – Marketing and promotion of Kagera and Rubondo Island

Current status
With the exception of the efforts of KATODEA, very little promotion exists for the LVB, despite the range of potential eco-tourism opportunities.

Concept and beneficiaries
To address the lack of promotion, the concept is to develop a promotional package that will boost the profile of the Kagara Region and Rubondo Island (Geita District, Mwanza region). Although the focus of this activity is on the Kagera region and Rubondo Island, this should not exclude application and interest from Mara Region. Mwanza Region is already better engaged in the tourism industry, through the Mwanza Airport and the Serengeti National Park and therefore should not be the main beneficiary. Instead these should be the LVB tourism industry as a whole and local inhabitants and investors in Kagera and Mara Regions, as well as TANAPA, through increased job opportunities and development.

Proposed activity
A range of activities should be included in the proposal, that included production of published materials (e.g. brochures, booklets, calendars, diaries, etc.), attendance at national, regional and international tourism trade fairs and marketing venues. This should include the May 2007 8th International Meeting on Tourism to be held in Arusha, organised by the US-based Leon H. Sullivan Foundation to discuss tourism and infrastructure. Qualified tourism promotion experts would be engaged to assist, supervise and monitor the activity.

Indicative budget
With an annual expenditure of US$ 100,000 over a period of five years, this activity expects to require a sum of US$ 500,000 as outlined below:

Item	**US$**
Supervision and design	25,000
Design and production of promotional materials	25,000
Travel and transport fees	50,000
Subtotal	100,000
Replicate the above for five years	x 5 years
Total	**500,000**

Monitoring and evaluation
This should be conducted by qualified personnel to effectively monitor the development of proposed activity and measure the outputs in terms of the quality and quantity of promotional materials produced and the numbers and experiences gained of the participating tourism stakeholders.

Potential partners
District tourism officers, NGOs, KATODEA, public and private tourism operators.

Timeframe: ET 2 – Marketing and promotion of Kagera and Rubondo Island

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design and planning	■	■																		
Selection of project partners and groups		■	■																	
Design of promotion materials				■	■			■	■			■	■			■	■			
Production of promotion materials and distribution					■	■	■			■	■			■	■			■	■	
Attendance of trade fares		■	■			■	■			■	■			■	■			■	■	
Monitoring and evaluation				■				■				■				■			■	■

Summary

ET 2 – Marketing and promotion of Kagera and Rubondo Island

Collaborators: KATODEA, local tourism agencies, district officers, TANAPA, Tanzania Tourism Board (TTB)
Objectives: Boost the local and international profile of the Kagera region and Rubondo Island.

Beneficiaries: Local tourism industry.

Budget (indicative): US$ 100,000 annual x 5 = US$ 500,000

Procedure: Establish coordinators and partners for promotion and marketing; produce materials; attend annual tourism trade fairs in Tanzania, South Africa and UK. Independent supervisory role to be established (budget 5% of total). Costs would cover marketing materials (posters, leaflets), attendance of trade fairs, and the independent supervisor role (5 %).
Timeframe (indicative)

Establish coordinators and partners – 3 months.

Arrange annual schedule and design materials – 5 months.

Produce materials and attend trade fares – 5 months.
Follow-up – ongoing annually for FIVE years.
Milestones
1. First international trade fair attended.

ET 3 – Support for joint-venture tourism development

Current status
Virtually nothing exists to attract foreign tourism investors to the LVB in Tanzania. Local entrepreneurs may have physical assets such as land but little ideas or capital to develop facilities to international standards. The potential and the locations exist for development of the more high-quality, joint ownership tourism destinations, especially in the Mara and Kagera regions.

Concept and beneficiaries
Provide support (technical and financial) to local tourism developers to attract foreign partners for development of hotels of international standards. The beneficiaries will include the LVB-based tourism entrepreneurs, the local tourism industry and its associated economies.

Proposed activity
Provide support (through small grants) to local tourism developers to prepare feasibility studies and assist them through supervisory role in the preparation of materials and sites to attract international partners for the construction of international standard tourism facilities. It is conceived that twenty proposals will also be provided micro-finance independently so as to provide 10% of the costs of development, with local partner receiving a loan and a grant (seed money) to get started.

Indicative budget
Based on a five year programme of support, aiming at providing US$ 20,000 for local entrepreneurs that qualify for the grant (thus US$ 400,000) plus technical assistance (valued at US$ 100,000 for five years) the total proposal costs is US$ 500,000.

Monitoring and evaluation
This should be conducted by qualified personnel to effectively monitor the development of the joint-ownership activities, beginning with the identification of suitable candidates, through a publicised selection procedure.

Potential partners
Tanzania Investment Centre, finance bodies, NGOs and district tourism officers, public and private tourism developers.

Timeframe: ET 3 – Support for joint-venture tourism development

Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Activities																				
Detailed project design and planning (identify technical experts)																				
Design of monitoring programme																				
Identify suitable beneficiaries																				
Provide grants and monitor project development																				
Evaluations																				

Summary

ET 3 – Support for joint-venture tourism development

Collaborators: Tanzania Investment Centre, finance bodies, NGOs.

Objectives: Provide support for local tourism ventures to attract foreign investment partners.

Beneficiaries: Local tourism industry.

Budget (indicative): U$S 20,000 (x 20) + US$ 100,000 technical inputs = US$ 500,000

Procedure: Provide support for local tourism developers to prepare feasibility studies through small grants; assist through supervisory role the preparation of materials and sites to attract international partners for the construction of international standard tourism facilities. Micro-finance to provide 10%, with local partner receiving a loan and a grant (seed money) to get started.

Timeframe (indicative)

Initiate the support programme and recruit consultant – 6 months
Visit sites, disperse small grants to suitable local entrepreneurs – year 2 – 5

Milestones

1. First foreign-local partner in tourism development.

ET 4 – Commissioning of management plans and development of cultural and natural sites of interest

Current status
The assessments by the URT (2002) and ICC (2005) both recommended the identification and conservation and/or restoration of selected historical and/or cultural sites. In the Kagera Region numerous under-utilised resources exist that are potential sites of eco-tourism. Of particular natural history interest are the Game Reserves (e.g. Biharamulo, Burigi and Moyowosi) and Minziro Forest. Makere *et al* (2004) listed 36 major tourist attractions in the region as historical sites, cultural monuments, wildlife, water bodies and wetlands. Ancient rock painting are monuments in desperate need of protection from vandalism and weathering. The URT (2002) further suggested a study of existing museums with the aim of improving layout, presentation and interpretation.

The Mara Region is not known for its tourism potential, though the scenery is attractive and the climate conducive. The school attended by Mwalimu J. Nyerere and his grave in Musoma are potential sites for further development and though the Mwanza Region is famous for the Serengeti National Park and the adjacent Speke Bay, both supporting tourism infrastructure, the far west the Rubundo Island National Park is under-utilised, with less than 500 visitors per annum. This island and others have the potential to support additional small-scale, eco-tourism initiatives e.g. like Chumbe and Mnemba of Zanzibar.

Concept and beneficiaries
To renovate and conserve historic, cultural (including museum) and biodiversity sites in the LVB. National (local and others) as well as foreign visitors will benefit from access to a range of natural and cultural features of the LVB that will boost national pride and awareness of history and nature.

Proposed activity
The names of the ten sites of initial focus for renovation are:

- Rubale forest waterfalls and cave
- Bahaya culture
- Iron works
- Rock-paintings
- Religious shrine
- Botanical garden
- Minziro forest
- Palace of Karagwe kings
- Mutagata hot springs
- J. Nyerere school & grave

Indicative budget
For each site US$ 50,000 is needed for renovation (including supervision by third party experts). For ten sites, the total needed would be US$ 500,000.

Monitoring and evaluation
Conducted by an independent evaluator, to check development of each site against the specific milestones determined, with annual monitoring and a final evaluation.

Potential partners
Local tourism industry, museum authorities, district councils and private sector.

Timeframe: ET 4 – Commissioning of management plans and development of cultural and natural sites of interest

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design (including finalising site selection)																				
Design of monitoring programme and supervisory role																				
Conduct EIA in selected sites																				
Conduct renovations																				
Monitoring and evaluation																				

Summary

ET 4 – Commissioning of management plans and development of cultural and natural sites of interest

Collaborators: KATODEA, local district, National Museum, business persons.

Objectives: Rehabilitate and/or create infrastructure at sites of special cultural or natural beauty or importance.

Beneficiaries: Local tourism industry, cultural heritage and natural environment.

Budget (indicative): US$ 50,000 x 10 sites = US$ 500,000.

Procedure: Conduct survey of sites worthy of upgrade, rehabilitation (e.g. palaces of ancient kingdoms of Kagera, rock art sites, waterfalls, unique forests, museums, etc.). Identify local partners and commission management plans for each site with allocated budget for development. Aspects include: marketing, access, rehabilitation, private-public partnership, information centers. Possible sites include hot springs, waterfalls, caves, cave paintings, palaces, colonial buildings, iron workings. Each site would come from individual proposals for funds, max of US$ 50,000.

Timeframe (indicative)

Finalise selection of sites and preparations – 6 – 12 months.
Conduct development of infrastructure or rehabilitation – 3 ½ years.

Milestones

1. Ten sites developed or upgraded to standard suitable for inclusion in itinerary of international tourist.

3.7 Micro-finance and Investment

Main objective: To propose an establishment of an investment fund to support sustainable investments at the national and trans-boundary levels with specific emphasis on micro-enterprises. The two specific tasks are to make an assessment of the micro-finance industry and their capacity to provide finance to SME's investments and propose strategies to develop an affordable and sustainable micro-financing industry in the region, and to propose a strategy for the establishment of an investment fund to support sustainable investments at the national and trans-boundary levels with special emphasis on micro-enterprises.

Progress
Desk and field visits were conducted in Ukerewe, Musoma, Bunda, Bukoba Municipal and Bukoba Rural and Ilemela Districts. The Micro-finance Sector Development Approach was used to assess the micro-finance industry and their capacity to finance Small and Medium Enterprises (SMEs) to develop a shared vision on building a competitive, efficient, and inclusive financial sector was developed. The information generated was compiled and presented in a community Seminar that took place in Mwanza on 5 August 2006. The Investment Fund and its implementation are described in section 3.1.

BACKGROUND

Existing Micro-finance Industry in the LVB
The promotion of micro and small enterprises was established in 1973 with parliament establishing the Small Industries Development Organisation (SIDO) as a government parastatal to promote small industries in mainland Tanzania. The micro-finance sector only really became established in the 1980s and has since been pioneered by the Presidential Trust Fund, PRIDE and MEDA.

The SME Policy, approved in 2002, guides the promotion of SMEs and defines micro, small and medium enterprises as non-farm economic activities mainly in manufacturing, mining, commerce and services. The policy also categorized enterprises according to size and investment as:

- micro (1-5 employees, up to 5 million Tsh)
- small (5-49 employees, <5-200 million Tsh)
- medium (50-99 employees, <200-800 million Tsh)
- large enterprises (100+ employees, >800 million Tsh)

There are 542 microfinance institutions in the LVB (including Shinyanga Region) that BOT categorises as MFIs. The different types of institutions are listed below with their percentage of the total:

- Financial Service Associations (0.2% only in Shinyanga region)
- Banks (0.2%)
- NGOs (3%)
- CBOs (5.6%)
- Government schemes (8%)
- Saving Associations and Cooperatives (SACCOS) (83%)

NGOs and Banks are restricted to urban areas and in general these MFIs, especially the SACCOs, reach few clients as they lack the needed capitalization.

Current policy and regulatory framework for financial intermediaries require MFIs and banks to have an adequate capitalization. BOT requires a minimum capitalization of 200 million Tsh for licensed financial institutions. Donors of SME programs include USAID, CIDA, SIDA, DFID, RNE, DANIDA, UNDP, ILO, UNIDO and The World Bank. The main donors (CIDA, SIDA, DFID, RNE, DANIDA, and The World Bank) have consolidated their efforts and are funding SMEs through a basket funding managed by the Financial Deepening Trust. Three commercial banks, the Kagera Farmers Cooperative Bank, CRDB and National Micro finance (NMB) Bank are targeting small and micro enterprises. The NMB is retailing to micro enterprises while CRDB is doing wholesale through partner MFIs – currently with SACCOS. All the three banks are accepting flexible collateral.

The analysis of NGOs as MFI registers 49 NGOs[1] in the Tanzanian portion of the LVB. NGO and MFIs (with the exception of PRIDE and FINCA) have a limited outreach of 323 clients per institution, but have a better outreach compared with SACCOS (see table 5).

Table 5 Regional Distribution of NGO MFIs in the LVB

Region	No.	Dominant Sector				Outreach No. of clients	No. of loan officers
		Manufa-cturing	Trade & commerce	Agriculture /Fishing	Social/ Services		
Kagera	8	0	3	3	2	5,399	8
Mara	2	0	2	0	0	2,050	4
Mwanza	6	0	5	1	0	6,645	16
Shinyanga	33	0	1	32	0	1,753	0
Total	**49**	**0**	**11**	**36**	**2**	**15,847**	**28**

Source; constructed from the BOT 2005 Tanzania Microfinance Institutions Directory-2005

Support services (e.g. funding mechanisms, audit and legal services, networks, training facilities, credit bureaus, etc.) are generally lacking. The immature status of the micro-finance sector and the resistance of successful MFIs like PRIDE and FINCA to register financial institutions, and the reluctancy of foreign banks to finance the micro enterprise sector either through retail or wholesale indicates that the MFI sector in Tanzania faces numerous obstacles on policy, legal/regulatory, institutional level keeping it from reaching a mature level. The demand to access finance by small and micro enterprise is under-supplied. The African Economic Outlook for 2004/2005 (OECD) estimates that micro-credit accounts for almost 5% of all bank credit while a 2003 study[2] estimated that 85% of SMEs do not access any formal sources of credit.

1 Including CBOs and Financial Services Associations that are financial intermediaries.
2 Taken from the IFC, 2005 Tanzania MSME Access to Finance Assessment report.

The performance of the microfinance industry in Tanzania is stunted and the demand of financial service is unsatisfied. Gallardo and Randhawa (2003) and OECD argue that access by large segments of the rural and urban population to financial services has remained unmet. Most bank branches are concentrated in Dar es Salaam, limiting the provision of microfinance services. IFC (2005) estimate 2.7 million SMEs in the country, with micro enterprises (those employing less than five people) constituting 98 % of this total.

The growth and interest in the micro-financing of development projects is recognized and the experiences so far are that in general, micro-projects are cost effective and may contribute to environmental awareness. Nyirabu (2005) recommends that LVEMP-2 be a "funding and supervising agency". This is supported by the Consultant and generally corresponds well with the LVEMP-objective of establishing an Investment Fund to support the development of micro-enterprise in the LVB. Such a development is expected to have a large impact by enabling thousands of micro-entrepreneurs access to financial services and in the process achieve impact, scale, and self-sufficiency.

During the Implementation of LVEMP-1, District and Village Steering Committees were created. Consequently, there exist leadership structures at these various levels that were specifically created to govern micro-projects. These committees comprising the government, NGO and community representatives are adequate and with a small modification i.e. adding representation from the private sector, are adequate to form into Boards that will steer the leadership of vibrant MFIs.

In view of the above assessment of the micro-finance industry in the LVB, two components are proposed that together form part of the strategy to develop an affordable and sustainable micro-financing industry. These are Enterprise Development and Locality Development, the two arms of the Investment Fund (fully described in section 3.7.3). The Enterprise Development component specifically addresses mechanisms to develop affordable micro-finance which is the focus of the proposed activities that follow.

Micro-finance for LVEMP-2

The government is implementing a financial sector reform and it has liberalised the sector. The government in 1998 amended the Banking and Financial Institution Act, 1991 to provide for micro-enterprise access to financial services. The government in 2000 also approved a National Microfinance Policy that among others aims to establish a basis for evolution of an efficient and effective micro financial system that serves the low income segment of the society.

To implement the best practices framework, the government enacted a subsidiary legislations in 2005 namely; the Banking and Financial Institution (Microfinance Companies and Micro-credit Activities) Regulations and the Financial Cooperatives Societies Regulations. The Microfinance Companies and Micro-credit Activities regulations apply to: financial institutions registered by the

Bank as Microfinance Companies[3]. The Financial Cooperatives Societies Regulations, 2005 translates to that Savings and Credit Cooperative Societies with a capital outlay of 800 million Shillings and above have to be licensed.
Some of the financial intermediaries have recognized that there is a business opportunity to target micro enterprises and the poor.

PROPOSED ACTIVITIES

MF 1 - Small enterprise access to capital

Current status
Tanzania in 2003 formulated a SME development policy in the form of priority projects and projects for a period of five years. The strategy has prioritised key objectives including:

i) enabling legal and regulatory framework;
ii) improved access to physical infrastructure and workplaces;
iii) strengthened entrepreneurial culture
iv) markets for sustainable business development services (BDS) [4]
v) improved SME access to finance;
vi) strengthened stakeholders capacities to achieve effective implementation SME assistance projects and interventions;
vii) enhanced rural industrialisation and
viii) cross cutting issues[5]

The trade policy (URT, 2003) conversely, envisages transforming the economy, increasing productivity and stimulating international competitiveness. The specific objectives of the policy include: i) building a diversified competitive economy to enhance the generation of foreign exchange; ii) encouragement of higher value-added on primary exports; iii) stimulating investment in export –oriented areas in which Tanzania has comparative advantage; iv) promoting domestic production and technological change consistence with the required productivity increase; v) encouraging of efficiency of imports utilisation; vi) achieving and maintaining long-term balance in current account.

Most of the donor-funded projects in Tanzania have concentrated on enabling the legal and regulatory framework contrasting the felt needs of entrepreneurs who perceive access to credit and markets as priorities. However, the Government, through the World Bank, is implementing various initiatives that among others address access to financial services. Some of the initiatives include the Small and Medium Credit Guarantee Schemes and the Financial Services Deepening schemes. These schemes remain unpublicised and during the field survey,

[3] Microfinance Institutions according to BOT are incorporated as companies limited by shares, with a minimum core capital of Tsh 800m for microfinance companies with nationwide branches and Tsh 200m for unit microfinance companies.
[4] BDS includes entrepreneurship development, business training, information services, technology and environment, SME markets access.
[5] Environmental consideration, gender and disadvantaged groups, HIV/AIDS.

entrepreneurs were found unaware of these initiatives, while the amount allocated and the outreach modalities indicate a marginal outreach[6].

Concept and beneficiaries
The overall goal is to enable small enterprise entrepreneurs to gain access to capital or finance so as to expand and develop their enterprises. Benefits from such a facility will be those targeted financial institutions that support growth-oriented small enterprises will access to capital through wholesale lending.

Proposed activity
Assess how the Government credit financing is fairing and if operating smoothly use the BOT to operate system of support for small enterprises. If the BOT Credit Guaranteeing system is not operating efficiently, design other approaches based on the lessons learnt. Other implementing agencies and participating financial institutions would be needed, before providing funds for an effective period of four years (following the first preparatory year). Once established, the project will transfer the needed skills and create conducive mindsets to small enterprise owners that will enable them to compete and create a creditworthy rating record to financial institutions. They will also demonstrate that they have viable, feasible business ideas and entrepreneurial qualities.

Indicative budget
The detailed modalities and costs for this activity cannot be determined at this stage but the proposed overall budget allocated to this activity is US$ 3.5 million. A small portion of this amount will cover the initial research, set-up costs, administration and monitoring and evaluation associated with this activity.

Monitoring and evaluation
Monitoring and evaluation will track whether the intervention has enabled financial institution to recognise that SME are clients of commercial banks through the increased number of SME projects that have been independently financed by participating and non-participating banks (without the use of credit guarantee schemes). Portfolio quality of SME lending will also be tracked and compared to other non SMEs portfolio.

Potential partners
Financial institutions Financial Deepening Fund Trust, BOT/Selected Fund Manager.

[6] 2 billion Tsh is allocated for the whole country in case of SME Credit Guarantee Scheme, while Banks see the scheme geared to the already established clienteles and systems.

Timeframe: MF 1 - Small enterprise access to capital

Quarters	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Activities																				
Assess the lessons learned from the current Government Credit Guarantee Scheme																				
Formulate Operating guidelines or other approaches that will ease access but confirm to best lending practices																				
Identify Implementing Agent (Bank of Tanzania or Other suitable implementing agent)																				
Sign Memorandum of Understanding with Agent																				
Select Participating Financial Institutions																				
Implement Intervention																				
Monitor and evaluate																				

Summary

MF 1 – Small enterprises access to capital

Collaborators: Financial institutions Financial Deepening Fund Trust, BOT/Selected Fund Manager.

Objectives: To enable small enterprise entrepreneurs access finance.

Beneficiaries: Growth-oriented small enterprises in the LVB.

Budget (indicative): US$ 3,500,000

Procedure: Assess how the Government credit gurantee scheme financing is fairing. If operating smoothly use BOT to operate system. If inefficient design other approaches based on the lessons learnt.

Timeframe (indicative)

Assess Government credit guarantee scheme - 1 month; select implementing agent - 2 months; select participating financial institutions -1 month; operate scheme (4 years)

Milestones

1. Select modality and collaborators
2. Banks and Licensed Financial institutions have recognized small enterprise as potential clients.

MF 2 - Small enterprise access to Business Development Services

Current status
The financial requirements of small enterprises are too high to be met by existing NGO MFIs, Government schemes and SACCOs. The needs however can be met by existing banks that are said to have a much higher liquidity and investing fund to purchase treasury bills. What the banks need is proof that the sector is viable. It is the intention of the project to pilot a demand-led business developemtn service that develops markets rather than subsidizing them. This intervention that will demonstrate to banks that the small enterprise sector is bankable as SMEs will develop bankable abd viable proposals.

Concept and beneficiaries
To assist small entrepreneurs to access and use Business Development Services on a sustainable manner. Small business and entrepreneurs in the LVB will be the target beneficiaries.

Proposed activities
Assess gaps inhibiting Small enterprise competitiveness and available international best practices, conduct TOT, identify and select potential providers and small enterprise entrepreneurs, conduct trainings in selected regional settings. Once the preparation period is completed, estimated as between one and two years, the main phase of training and mentoring of small enterprises will begin and last three years, to the stage where they are providing competitive services and eventually are cost sharing to services provided by service providers. The overall project time is therefore five years.

Indicative budget
The detailed modalities and costs for this activity cannot be determined at this stage but the proposed overall budget allocated to this activity is US$ 1.5 million. A small portion of this amount will cover the initial research, set-up costs, administration and monitoring and evaluation associated with this activity.

Monitoring and evaluation
One of the key performance indicators will be to demonstrate that SME financing is an integral part of the commercial financial system. Monitoring indicators will include increase in sales and profitability of the small business engaged in the programme when compared and evaluated against the control group. Access and demand of services (calculated on the increased % of contribution of participating firms to access services of business development service providers) will be tracked. Monitoring will track whether the intervention has enabled financial institution to recognise that SME are clients of commercial banks through the increased number of SME projects that have been independently financed by participating and non participating banks (without the use of credit guarantee Schemes).

Potential partners
Small businesses in the LVB, Business Service Providers, Tanzania Private Sector Foundation, Universities, International Business Service Providers.

Timeframe: MF 2 - Small enterprise Access to Business Development Services

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Identify training needs that will make small enterprise competitive																				
Map business service providers and Business Development Services intervention supporting enterprise competitiveness																				
Invite bids for providing Business Development Service on competitive bidding																				
Select winning interventions																				
Select control groups																				
Subcontract intervention to selected BSDPs																				
Conduct Training of Trainers workshop for local providers																				
Main phase of implementation of the tntervention																				
Monitoring and evaluation																				

Summary

MF 2 – Small enterprises access to Business Development Services

Collaborators: Business Service Providers, Tanzania Private Sector Foundation, Universities, International Business Service Providers

Objectives: To facilitate small entrepreneur's access to Business Development Services.

Beneficiaries: Growth Oriented Small Enterprises Owners, Problem Oriented Small Enterprise owners needing rehabilitation, Business Service Providers

Budget (indicative): US$ 1,500,000

Procedure: Assess gaps inhibiting small enterprise competitiveness and available international best practices, conduct TOT, identify and select potential providers and small enterprise entrepreneurs, conduct trainings in selected regional settings.

Timeframe (indicative) Assessment 3 months, TOT 1 month, Implementation 3 Years

Milestones

1. Business Service Providers competent to train and mentor SE, SEs products and services are competitive, SE are cost sharing to services provided by service providers.

MF 3 – Enhance MFIs to provide services

Current status

Micro enterprises (ME) face numerous obstacles keeping them from sustainable growth, the most prominent ones being; lack of access to affordable and reliable financial services; lack of management and entrepreneurial competencies and qualities; technical and accounting skills, lack of business and market information; a non-conducive regulatory and legal environment. It is argued that an integrated approach is viable to ME promotion. Meanwhile, NGOs and SACCOS have a limited capital and institutional base which is insufficient for a sustainable and basin wide supply. Government credit schemes lack best practice while clients consider these loans as grants. There is a total of 542 Microfinance Institutions in the Lake Basin reaching 101,254. This is a low outreach equating to 186.8 clients per MFI or 1.8% of the population. Best Practice MFIs target thousands of clients. Nevertheless the disparity, two best practice NGOs[7], PRIDE and FINCA have branches in the LVB and have achieved operational and financial self-sufficiency in some branches.

During the field study, it was observed that CRDB is offering wholesale service through intermediary MFIs. Beneficiary MFIs, in turn provide financial services to their members and Customers. Rolled out in 2001 after a three year pilot testing, CRDB has enabled 162 Participating MFIs to reach 73,188 customers through technical support, loans and Card Services. Dunduliza, a network of SACCOS is testing a model and intends to transform SACCOS into vibrant, efficient and effective MFIs. Business Associations in the LVB see an opportunity of transforming into MFIs and adopt the Micro Enterprise Program of Alexandria Business Association that is among the world best MFI best practices.

The vision of a Microfinance Sector Development Approach on which the project design is crafted upon, envisages an unhindered and secure access of micro entrepreneurs to the financial sector on commercial and sustainable terms. To optimally address such a need, the capacity of the whole sector of microfinance needs to be developed as an integrated part of the whole financial sector.

Concept and beneficiaries

To work with the MFIs operating in the LVB and assist them through technical, operational and outreach training to improve and boost their ability to provide financial services to the local small enterprises. The beneficiaries are in the first instance the MFI and financial intermediaries in the region, eventfully extending to the end-users, the micro business.

Proposed activities

After an initial assessment of the micro-enterprise population, on needs and types of services accessed a fully understanding of the market will be established. Then, an assessment of the needs and capacity of existing MFIs in terms of staff, and lending methodology will be made to determine the appropriate capital for MFIs to reach financial self-sufficiency. The selection of par-

[7] PRIDE Tanzania is reaching 63,359 while FINCA has 45, 022 clients

ticipating MFIs will lead to a start up phase that will include training in how to campaign to commercial banks, recruit and train MFI leadership and management, transfer systems, deliver service and aggressively market approach for a period of up to four years.

Indicative budget
The detailed modalities and costs for this activity cannot be determined at this stage but the proposed overall allocated to this activity is US$ 7 million. A small portion of this amount will cover the initial research, set-up costs, administration and monitoring and evaluation associated with this activity.

Monitoring and evaluation
The first aspect for monitoring will be the MFIs themselves, through indicators developed with these institutions. The second measure of performance indicator will be the number of micro enterprise that have benefited from the outcomes of the project objectives, specifically that MFIs have increased their outreach and self sufficiency. The first indicator will be measured by the increase in the number of micro-loans, and increase in volume of savings for SACCOs. The micro loans indicator will be tracked at the participating MFIs and financial intermediaries that would have agreed to participate in wholesaling/retailing. Also quantitative and qualitative assessments will document progress toward the achievement of the objectives and capture "lessons learned" for dissemination and application in this project and future initiatives.

It is expected that there will be impact of the final beneficiaries. Data will be collected through interviews of project beneficiaries and this will be matched with a control group in the same location who did not benefit from the project. To enable the exercise to be comparable a baseline data on the MFIs and projects will be conducted.

Potential partners
Financial Technical Service Providers, BOT, Financial Services Deepening Trust, Cooperative Officers.

Timeframe: MF 3 – Enhance MFIs to provide services

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Assess ME population, needs, types of services accessed to understand the market																				
Assess the needs of and capacity existing MFIs in terms of staff, and lending methodology																				
Determine the appropriate capital for MFIs to reach financial self-sufficiency																				
Select participating MFIs and Sign MOU																				
Select participating control groupd and conduct baseline survey																				
Start-up phase (campaign to commercial banks, recruit & train MFI leadership & management, transfer systems, deliver service and aggressively market approach)																				
Sustainability (develops organization capacity to raise needed resources and systems)																				
Self-sustainability (Organisation covers all expenses with earned income)																				
Monitor and evaluate																				

Summary

MF 3 – Enhance MFIs to provide services

Collaborators: Financial Technical Service Providers, BOT, Financial Services Deepening Trust, Cooperative Officers.
Objectives: Enhance MFIs technical, operational and outreach capacity to provide financial services.
Beneficiaries: Micro Finance institutions, Financial Intermediaries, Micro enterprises, Business Associations
Budget (indicative): US$ 7,000,000

Procedure: Assess current practices of MFI support to Micro enterprise, identify best interventions, and develop collaborating MFIs and Banks who may wholesale to MFIs, project viable fund to reach sustainability.
Timeframe (indicative)
Assess ME needs for financial services and gaps - 2 month; select Participating MFIs - 2 month; operate scheme - 2 years.
Milestones
1. Select collaborators
2. MFI have funds to finance ME, Banks and Licensed Financial institutions are wholesaling to MFIs.

MF 4 - Strengthen financial intermediaries to support MFIs

Current status

Commercial banks and other non-bank financial institutions lack the institutional capacity and willingness to serve micro-enterprises; instead they see micro-enterprises as risky clients and consider small loans costly. Out of the 22 registered commercial banks, only 8 banks are recognized by BOT as MFIs. Two banks (the National Microfinance Bank and the Tanzania Postal Bank) have branches in the LVB. There is only one community Bank the Kagera Farmer's Cooperative Bank Limited in the Municipality of Bukoba. The Kagera Farmers Cooperative Bank is preparing a business plan under the support of the Financial Deepening Trust to refocus itself and wholesale to MFIs. In the same way as MFIs need assistance, capacity building and strengthening to improve their service to the micro-enterprises, the financial intermediaries likewise require assistance and strengthening to more effectively serve the MFIs that they support.

Concept and beneficiaries

Strengthen financial intermediaries (banks, business service providers and technical financial service providers) to support MFI to implement best practices. The beneficiaries will be the financial intermediaries and their customers the MFI and ultimately the end users, the micro-enterprises of the LVB.

Proposed activity

Beginning by mapping financial intermediaries and identifying the needs that will enable intermediaries to provide services to MFIs effectively, a range of suitable institutions will be invited to express interest and bids for providing Financial Technical Service Providers and select winning interventions. Win-

ing providers will benefit from the training of trainers workshop for MFI best practice under a comprehensive capacity strengthening programme.

Indicative budget

The modalities and costs for this activity cannot be determined accurately at this stage but the proposed activity (with three years of intervention) can be undertaken for US$ 1 million. A proportion of which will cover the initial research, set-up costs and training, expected to cover at least the first year, plus administration and monitoring throughout, for a toptal of five years.

Monitoring and evaluation

The first aspect for monitoring will be the financial intermediaries themselves, through indicators developed with these institutions. The second measure of performance indicator will be the number of MFIs that have benefited from the outcomes of the project objectives, specifically that financial intermediaries have increased their outreach and self sufficiency.

Potential partners

Financial Technical Service Providers, BOT, Financial Services Deepening Trust, Cooperative Officers.

Timeframe: MF 4 - Strengthen financial intermediaries to support MFIs

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Map financial intermediaries																				
Identify needs that will make intermediaries to provide Services to MFIs effectively																				
Invite bids for providing Financial Technical Service Providers through competitive bidding																				
Select winning interventions																				
Subcontract intervention to selected (FTSPs)																				
Conduct Training of Trainers workshop for MFI best practice																				
Implement Intervention																				
Monitoring and evaluation																				

Summary

MF-4 – Strengthen financial intermediaries to support MFIs

Collaborators: Financial Technical Service Providers, BOT, Financial Services Deepening Trust, Cooperative Officers.

Objectives: Strengthen financial intermediaries to support MFI to implement best practices.

Beneficiaries: Technical financial service providers.

Budget (indicative): US$ 1,000,000

Procedure: Map MFI and financial service provider needs, select providers and collaborating MFIs, conduct TOT for providers, support providers to train and mentor MFIs.

Timeframe (indicative)
Preparation and assessments - 12 months; TOT - 6 months; implementation - 3 years.

Milestones
1. Financial Technical Service Providers competent to train and mentor MFIs, MFIs are applying MFI best practices.

MF 5 - Empowering micro-entrepreneurs to compete

Current status

Micro enterprises fail to survive as they have limited access ts markets due to mediocre product quality and lack of strengthened competitiveness. Therae is a need to build the capacity of micro enterprises to Access Markets , improved product quality assurance, and other support geared to strengthen the competitiveness of micro enterprises. Many of the thousands of small enterprises in the LVB can benefit from myriad forms of cluster competitiveness interventions and training that will improve their ability to survive and ultimately compete and expand.

Concept and beneficiaries

The objective of this activity is to empower micro-entrepreneurs and the rural poor of the LVB to participate actively in a competitive business environment. These individuals and small companies, micro-enterprises and entrepreneurs, are the ultimate beneficiaries.

Proposed activity

The project will begin with the mapping of business service providers and the identification of the needs that will enable micro-entrepreneurs to become competitive. Following, invitation for bids for providing Business Development Service will lead to the selection of winning interventions from companies that will be subcontracted to carry out the intervention and conduct training of trainer’s workshop for international micro-enterprise development interventions.

Indicative budget

The modalities and costs for this activity cannot be determined accurately at this stage but the proposed activity can be undertaken for US$ 1 million, a proportion of which will cover the initial research, set-up costs, training and administration and monitoring.

Potential partners

Business Service Providers (for training and mentoring of ME), selected MEs, BOT, Financial Services Deepening Trust, Cooperative Officers.

Monitoring and evaluation

As with other micro-finance support initiatives described above, one of the key performance indicators will be the ability to demonstrate that micro-enterprises have benefited from the outcomes of the project objectives, that they have increased their competitiveness and thus overall business success. The main indicator will be the measured increase in business turn-over but also quantitative and qualitative assessments will document progress toward competitiveness through "lessons learned" gained from meetings and workshops. Data will be collected through interviews of project beneficiaries and this will be matched with a control group in the same location who did not benefit from the project. To enable the exercise to be comparable a baseline data on the non-participating enterprises will be conducted.

Timeframe: MF 5 - Empowering micro-entrepreneurs to compete

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Map Business service Providers																				
Identify needs that will enable micro entrepreneurs to become competitive																				
Invite bids for providing Business Development Service through competitive bidding																				
Select winning interventions																				
Select contrl sites an conduct baseline surveys																				
Subcontract intervention to selected (BDSPs)																				
Conduct Training of Trainers workshop for international micro enterprise development interventions																				
Implement Intervention																				
Monitoring and evaluation																				

Summary

MF 5 – Empowering micro- entrepreneurs to compete

Collaborators: Business Service Providers (for train and mentoring of ME), selected MEs, BOT, Financial Services Deepening Trust, Cooperative Officers.
Objectives: Empowered micro entrepreneurs and the rural poor participate actively in a competitive business environment.
Beneficiaries: Technical financial service providers.

Budget (indicative): US$ 1,000,000

Procedure: Assess gaps inhibiting micro enterprise competitiveness and available international best practices, conduct TOT, Identify and select potential providers and micro enterprise entrepreneurs, conduct trainings in selected regional settings.

Timeframe (indicative)
Assessment and preparations 1 year; TOT - 3 month; implementation - 3 years.

Milestones
1. Business Service Providers competent to train and mentor ME, MEs products and services are competitive.

Final note

The ultimate goal and performance indicators of the above five proposed activities will be a mature microfinance sector that has a conducive policy environment, in which exists a supportive legal and regulatory framework, sufficient financial intermediaries (bank and non-bank financial institutions) and non-financial service providers (BDS, credit bureaus, rating agencies) that satisfy the needs of the micro enterprise requirements in a demand and market oriented manner.

3.8 Environmental Legislation

Main objective: to review environmental impact assessment legislation and assess capacity in the LVB riparian countries, identify gaps, and propose strategies for harmonization.

Progress

The results presented in this chapter are based on desk and Dar es Salaam based studies combined with site visits to Mwanza region to meet local environmental management and relevant district staff.

BACKGROUND

Tanzania now has a comprehensive legal framework to address issues of sustainable natural resources management including of specific pieces of legislation for different natural resource sectors. Since 1998 there has been a promulgation of new policies to guide the utilisation and management of natural resources such as mining, wildlife, forestry, beekeeping, fisheries and tourism that has culminated in the review of the institutional and legal framework of such sectors. Between 1998 and 2004 new pieces of legislation were enacted repealing the old ones. This is the case of the mining, forestry and fisheries laws. Legislation covering the remaining natural resources sectors such as wildlife, tourism and water resource management is in the process of being replaced with of new pieces of legislation.

The new pieces of legislation have partially departed from the then prevailing approach in natural resource management which was based primarily on a "command and control" approach, often referred to as "fences and fines" approach in wildlife and forestry sectors. The new pieces of legislation have included provisions which provide for environmental management tools such as Environmental Impact Assessment and community participation in the management of natural resources.

Until the end of 2004 there was no piece of legislation that was specifically providing for environmental management. That gap has been filled by the enactment of the *Environmental Management Act, 2004* which became operational on 1st July 2005 (see Annex 4.5). The enactment of the *Environmental Management Act, 2004* has addressed one of the weaknesses apparent in Tanzania. This is the lack of a coordinating piece of legislation on environmental management. It has also addressed the issue of providing for environmental management instruments that have a legal backing such as Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA).

Also relevant in the context of the LVB are rules that govern the use of Lake Victoria for transportation services, which falls under pieces of legislation

which have been enacted by the Parliament in 2004 to govern and regulate the operation of merchant shipping activities and port services.

Environmental Management Act and Impact Assessments
The *Environmental Management Act, 2004* is a framework legislation. The framework nature of the Act is well articulated in National Environmental Policy 1997 paragraph 70 which provides that:

> *"The framework environmental legislation shall be designed to organise various agencies of Government charged with aspects of environmental protection to promote coordination and cooperation among them, and shall define environmental management tools of general scope that facilitate an even degree of policing and enforcement. Sectoral legislation shall be designed in such a way as to factor environmental policy objectives in their area of coverage".*

There are instruments or tools of modern environmental management which are now universally accepted and included in legislation taking into account the specific situation of each country. These instruments or tools are also provided for in the *Environmental Management Act, 2004*. These include:

- Economic Instruments (**section 80**)
- Environmental Impact Assessment and Audit (**Part VI of the Act – sections 81 to 101**)
- Other assessments such as social, health, biotechnological and risk impact assessment (**section 103**)
- Strategic Environmental Assessment (**Part VII of the Act – sections 104 to 105**).
- Pollution Prevention and Control (**Part VIII of the Act – sections 106 to 113**)
- Waste Management covering solid waste, litter, liquid waste, gaseous waste and hazardous waste (**Part IX of the Act – sections 114 to 132**)
- Environmental Quality Standards catering for water, air, noise and vibration pollution, radiation and soil quality standards (**Part X of the Act – sections 140 to 150**)

Environmental Impact Assessment
The *Environmental Management Act, 2004* provides for the need of carrying out EIA. Section 81 requires proponents or developers of a project to undertake at his own cost an environmental impact study. Projects and undertakings that require EIA have been specified in the Third Schedule to the Act and are elaborated in the *Environmental Impact Assessment and Audit Regulations, 2005*. The following are listed in the Third Schedule to the Act as types of projects that require EIA:

1. General:
   a) any activity out of character with its surrounding;
   b) any structure of a scale not in keeping with its surrounding; and

c) major changes in land use.

2. Urban Development.
3. Transportation.
4. Dams, rivers and water resources.
5. Aerial spraying.
6. Mining, including quarrying and open-cast extraction
7. Forestry related activities.
8. Agriculture including.
9. Processing and manufacturing industries including.
10. Electrical infrastructure.
11. Management of hydrocarbons including the storage of natural gas and combustible or explosive fuels.
12. Waste disposal.
13. Natural conservation areas.
14. Nuclear Reactors.
15. Major development in biotechnology including the introduction and testing of genetically modified organisms.
16. Any other activity as may be prescribed in the regulations.

This list is further amplified in the *Environmental Impact Assessment and Audit Regulations, 2005* by giving more details to the types of project requiring and not requiring EIA. The schedule has type A and B projects. Type A is for projects requiring a mandatory EIA. That is a project likely to have significant adverse environmental impacts and that in depth study is required to determine the scale, extent and significance of the impacts and identify appropriate mitigation measures. Type B project are those requiring Preliminary Environmental Assessment, of activities likely to have some significant adverse environmental impacts but that the magnitude of the impacts is not well-known. In such a case a preliminary environmental assessment is required to decide whether the project can go on with development without a full environmental impact assessment.

The Act and the Regulations outline the process and procedure of carrying out of an EIA, its review and approval by the appropriate authorities. Review of EIA is to be carried out by the National Environment Management Council while approval is to be given by the Minister responsible for environment.

The sector ministries and the local government authorities through their Sector Environmental Coordinator and local government authorities Environmental Management Officers, respectively, participate in assisting the National Environmental Management Council (NEMC) in the process of overseeing the preparation of an EIA study. It is NEMC that is empowered by the *Environmental Management Act, 2004* under section 85 to determine the scope of the Environmental Impact Statement (EIS) by agreeing with the proponent on the following:

- The prescribed issues that must be addressed by the Environmental Impact Statement;
- Persons and institutions that must be consulted during the preparation of the Environmental Impact Statement;

- Methodologies and approaches in the collecting, collating and analyzing the required data; and
- Any other matter determining the scope of the Environmental Impact Statement.

NEMC is also charged with the responsibility of reviewing the EIS once it has been submitted by the proponent. *The Environmental Management Act, 2004* under section 88 during the review process to take into account the following criteria:

- The balance between short and long term socio-economic benefits of the project and the detriment to the human and physical environment
- The nature of the project or undertaking and how it is likely to meet environmental standards;
- The possible mitigation alternatives or other remedial measures;
- Comments received during public hearings and other consultative processes under the Act; and
- Any other review criteria as prescribed in the regulations.

The *Environmental Impact Assessment and Audit Regulations, 2005* provides the following review criteria:

(a) **Review Area 1 -** Description of the Development Local Environment and Baseline conditions:
- (i) description of the development; and
- (ii) local environmental and baseline conditions.

(b) **Review Area 2 -** Identification and Evaluation of key impacts:
- (i) identification and evaluation of key impacts;
- (ii) residual impacts;
- (iii) cumulative impacts;
- (iv) prediction of impact magnitude; and
- (v) assessment of impact significance.

(c) **Review Area 3 -** Alternatives, mitigations, EMP, and commitment:
- (i) alternatives;
- (ii) mitigations;
- (iii) Environmental Management Plan; and
- (iv) commitment.

(d) **Review Area 4 -** Stakeholder participation and communication of results:
- (i) stakeholder participation;
- (ii) presentation;
- (iii) balance; and
- (iv) non-technical summary.

The power to approve the EIS and issue an EIA Certificate is vested with the Minister. Section 92 of the *Environmental Management Act, 2004* states that the Minister upon receipt of review recommendation from NEMC may do the following:

- approve the EIS and issue an EIA Certificate; or
- disapprove the EIS; or
- approve an EIS subject to such conditions as he may determine and issue an EIA Certificate.

Strategic Environmental Assessment (SEA)
The *Environmental Management Act, 2004* provides for the carrying out of a SEA of Bills, regulations, policies, strategies, programmes and plans. The Act also provides for the need of SEA being carried out where a mineral or petroleum resource is identified and before specific details are planned or hydroelectric power station is planned or a major water project is planned. The Government through the Ministry responsible for that specific activity would do SEA.

Other Assessments
The Environmental Management Act, 2004 envisages where the Minister orders the conducting of other types of impact assessments, such as social, health, biotechnological or any other risk impact assessment.

Natural Resources Legislation and the Environment

a) Fisheries Legislation
The *Fisheries Act, 2003* is the main fisheries legislation in Mainland Tanzania, repealing the Fisheries Act, 1971 and coming into operation in July 2005. The new fisheries legislation establishes the Fisheries Departments and vests in them the powers to undertake monitoring, control and surveillance activities. The main enforcers of the law are directors of the fisheries departments assisted by the fisheries officers in form of authorized officers. It also establishes Beach Management Units.

The *Fisheries Act, 2003* contains provisions on the protection and management of both the aquatic environment and surrounding terrestrial environment and the Government would take measures aimed at strengthening regional and international collaboration in the sustainable utilization, management and conservation of resources in shared water bodies such as Lake Victoria. The Act links economic development with proper environmental management in the utilisation of fisheries resources. Various provisions in the Act exist to strengthen regional and international cooperation.

The Act has a specific provision that stipulates the need for undertaking of an EIA, as per Section 52 that states:

> "*No person shall undertake any development activities in this Act without undertaking Environmental Impact Assessment in accordance with any other written laws of Tanzania*."

It is clear that EIA will be undertaken in accordance with the *Environmental Management Act, 2004* and the *Environmental Impact Assessment and Audit Regulations, 2005*.

In order to ensure effective public participation in the undertaking of EIA the *Fisheries Act, 2003* provides under section 30 that the Fisheries Development Fund would assist group of persons and individuals to participate in any public debates and discussions on fisheries such as the making of environmental impact assessment.

b) Mining Legislation

The *Mining Act, Cap 123 R.E. 2002* deals with prospecting for minerals and mining in Mainland Tanzania. However it does not apply to the search for or production of petroleum. The new Mining Act was the first legislation covering the whole of the United Republic of Tanzania to make Environmental Impact Assessment (EIA) a legal requirement.

Applicants of mining licences are required under the section 30 of *Mining Act, Cap 123 R.E. 2002* to commission and produce to the Minister an EIA. Along with it the Applicant must also submit along with their applications an environmental management plan, including proposals for the prevention of pollution, treatment of wastes, protection and reclamation of land and water resources and for minimising the adverse effects on the environment from mining operations.

There are more provisions in the Act dealing with environmental management. Section 98 (1) of the Act empowers the Commissioner for Minerals to prohibit any wasteful practices by the holder of the mineral right. Moreover the holder of the licence, on surrendering, will only be issued with certificate of surrender if the licensing authorities are satisfied that the applicant leaves land (surrendered) in good condition according to good prospecting practices.

Requirements of EIA in the mining sector are further clarified in the *Mining (Environmental Management and Protection) Regulations, 1999* (GN No. 218 of 1999). The regulations cover an array of environmental management aspects covering EIA, avoidance of pollution to the air, surface and ground water and soils, as well as matters relating to the protection of the environment and minimization of all adverse impacts to the environment including the restoration of land on which mining operations have been conducted.

On EIA regulation 4 of the *Mining (Environmental Management and Protection) Regulations, 1999* requires every application for Mineral rights to be accompanied by Environmental Impact Statement and management plan, in the following categories:

- All special mining licence applications;
- Mining licence and gemstone mining licence, stipulated in the first schedule.

In order to ensure that people in the areas where mining activities will take place understand the EIS and effectively participate in the EIA process the *Mining (Environmental Management and Protection) Regulations, 1999* require that the EIS and EMP submitted should have a summary in Swahili lan-

guage. Moreover it must be published in Swahili and English newspapers circulating in the locality in which the land is situated. The regulations under regulation 7 further require that a copy of the application, the plans, EIS and EMP deposited at the LA and the zonal mines office can be inspected by members of the public during normal working hours. The same regulation states that any person wishing to make representations about the application should do so in writing before the expiry of 30 days, from the date of publication, to the licensing authority.

The provisions on the conduct of EIA under the *Mining Act, Cap. 123* and the *Mining (Environmental Management and Protection) Regulations, 1999* are applicable subject to the provisions of the *Environmental Management Act, 2004* and the *Environmental Impact Assessment and Audit Regulations, 2005*. In case of conflict then the *Environmental Management Act, 2004* and regulations made under it will prevail. Section 232 of the *Environmental Management Act, 2004* provides that:

"*Where the provision of this Act is in conflict or is otherwise inconsistent with a provision of any other written law relating to environmental management, the provisions of this Act shall prevail to the extent of such inconsistency.*"

The *Mining (Safe Working and Occupational Health) Regulations, 1999* protect the human being working in a hazardous environment by providing requirements on safety working conditions and occupational health in mines. The regulations require the mine licence holders to protect their employees through the use of protective gears such as boots, gloves, air conditioners, light and protect them against any toxic substances.

c) Forestry

The forest sector was for many years in Tanzania Mainland governed by the *Forest Ordinance, 389* which was enacted in 1957 and came into operation in 1959. The *Forest Ordinance* has now been repealed by the *Forest Act, 2002*. The New Forest Act has been enacted to accommodate the current awareness and need of managing forest resources as national heritage for the benefit of the present and future generations. It incorporates modern concepts and principles of environmental management such as sustainable development and Environmental Impact Assessment.

The *Forest Act, 2002* requires the undertaking of an EIA in developments and undertakings that will be taken in the sector. Section 18 of the *Forest Act, 2002* stipulates that an EIA must be undertaken for any development proposal in a forest reserve, private forest, and sensitive forest area including a watershed. The section obliges any person proposing any development to submit to the Director of Forestry an EIA for the proposed development. The provision categorically prohibits the undertaking of any development before the Director of Forestry is satisfied with the EIA that has been undertaken.

The *Forest Act, 2002* states in section 18 (5) that the modalities and substance of EIA would be as set out in guidelines by authorities and organisations re-

sponsible for the protection of the environment. This means that EIA under the *Forest Act, 2002* will be conducted in accordance with the *Environmental Management Act, 2004* and the *Environmental Impact Assessment and Audit Regulations, 2005*.

The *Forestry Act, 2002* lists the following developments and undertakings in forest reserves, private reserve and sensitive forest reserve as requiring an EIA:

- Commercial logging and forestry industry;
- Mining developments;
- Road construction or the laying of pipes;
- Construction of dams, power stations, electrical or telecommunication installations;
- Construction of a building or group of buildings for purposes other than the management of forest reserve on an area of land exceeding one hectare;
- Agricultural, aqua-cultural or horticultural development on an area exceeding 5 hectares.

Once the EIA has been approved the developer is required to incorporate the Environmental Management Plan into the Forest Management Plan.

EIA is supposed to play an important role in decision-making under the *Forestry Act, 2002*. The Act stipulates in section 20 that determining whether to approve a concession or not the Director of Forestry should have regard to the contents and conclusions of EIA which has been undertaken in respect of the purposes of the applicant.

In order to facilitate effective participation of the communities in the EIA process the *Forest Act, 2002* states one of the objectives of the Tanzania Forest Fund as assisting groups of persons and individuals to participate in processes connected with the making of an EIA.

The *Forest Regulations, 2003* that have been made by the Minister as required by the *Forest Act, 2002* has provisions that compliment the EIA requirements under the Act. Regulation 18 (1) empowers the Director of Forestry to determine the basic recreational facilities that may be provided in suitable areas of any forest reserve other than a private or village forest reserve. The Director has powers to grant licence for the development, management and use of such forest reserve by any competent individual, group of individuals or institution subject to any suitable terms that he may ascribe. However regulation 18 (2) states that the terms and conditions for the running of recreational facilities under this regulation must include a supportive environmental impact assessment financed by the investor.

d) Wildlife Resources

Tanzania is endowed with rich wildlife resources in terms of national parks and game reserves some of which are in the Lake Victoria Basin. The *Wildlife Conservation Act, 1974*, governs consumptive and non-consumptive use of wildlife

resources together with their habitats in game reserves, partial game reserves, game controlled areas and general land. On the other hand the Tanzania National Parks Act governs non-consumptive wildlife resources and their habitats in national parks.

Wildlife Conservation Act, 1974

The *Wildlife Conservation Act, 1974* has no provisions which require the undertaking of EIA for developments or undertaking in wildlife sector. This can be attributed to the fact that the Act was enacted in the 1970s when EIA was not known. However the overarching *Environmental Management Act, 2004* redresses the lack of provisions on EIA or other assessments under the *Wildlife Conservation Act, 1974*. That means proponents of developments in the wildlife sector must undertake EIA as stipulated by the *Environmental Management Act, 2004* and the *Environmental Impact Assessment* and *Audit Regulations, 2005*.

Tanzania National Parks Act

The *National Parks Act, Cap. 412 R.E. 2002* was first enacted in 1959 and it provides for procedures for establishment, control and management of national parks. Since its coming into force on the Ordinance has been amended three times to accommodate necessary changes that were required to improve the efficacy of the law especially in enforcement aspects. Some of the changes were necessitated by the enactment of the Wildlife Conservation Act, 1974.

The *National Parks Act* has no provisions which require the undertaking of EIA for developments or undertaking in wildlife sector. This can be attributed to the fact that the Act was enacted when EIA was not known. However the overarching *Environmental Management Act, 2004* redresses the lack of provisions on EIA or other assessments under the *Tanzania National Parks Act*. That means proponents of developments in the wildlife sector must undertake EIA as stipulated by the *Environmental Management Act, 2004* and the *Environmental Impact Assessment* and *Audit Regulations, 2005*.

e) Eco-tourism

Eco-tourism is a recent approach in tourist activities in Tanzania and it is still at an infancy stage. There is no specific piece of legislation that governs eco-tourism in Tanzania. This means that it is the pieces of legislation governing areas that will provide eco-tourism services that will govern environmental management aspects that need to be observed by those providing such services. Thus where eco-tourism activities are carried out in a forest reserve, village forest reserve or a community forest reserve it is the *Forest Act, 2002* that will be applicable. In the case of historical sites and national monuments then it is the *Antiquities Act, 1964* that will apply.

However the conduct of tourist agents in Tanzania is governed by the *Tourist Agents (Licensing) Act, Cap. 65 R.E. 2002*. The Act defines a tourist agent to include a travel agent or tour operator or any person who for reward undertakes to provide for tourists and other members of the public in relation to

tours and transport within or outside Tanzania. Definitely that definition covers those who deal with eco-tourism.

Although the Act is silent on environmental protection or EIA there is room for including such aspects in the conditions attached to a licence issued to a tourist agent. Section 7 of the Act empowers the licensing authority impose conditions to a licence. Moreover section 20 empowers the Minister responsible for tourism to make regulations regulating the activities of tourist agents in order to maintain high standard in the tourist industry. High standards of tourist industry include the protection of the environment.

f) Ports Administration and Merchant Shipping

Ships and boats in Tanzania are governed and regulated by laws that have been passed by Parliament. The *Ports Act, 2004* that repealed the *Tanzania Harbours Authority Act, 1977* provides the legal regulatory frameworks for ports seaports and inland water ways ports in Tanzania. The second schedule to the *Ports Act, 2004* lists the inland waterways ports in LV as Mwanza South, Mwanza North, Bukoba, Kemondo Bay, Nansio and Musoma. The *Ports Act, 2004* establishes the Tanzania Ports Authority (TPA), effective from July 2006.

Although the *Ports Act, 2004* provides for protection of the environment it does not have express provisions on the need of carrying out EIA in developments in that sector. However that gap is filled by the *Environmental Management Act, 2004* which applies to all sectors and developments in Mainland Tanzania. Legal measures for protection of marine environment by boats and ships plying in the Indian Ocean and lakes in Tanzania are outlined in the *Merchant Shipping Act, 2003*.

Local Government Laws and Environmental Management

Planning is one of the essential tools or means by which LAs carry out their functions as mandated by the law. In the case of district councils their functions are stipulated in detail under the *Local Government (District Authorities) Act, Cap. 287 R.E. 2002*. The Act was amended in 1999 as part of the implementation of the Local Government Reform (LGRP). Issues of environment are now included as objectives of functions and therefore part of the mandates of local government in their respective areas. The new section 111A (2) (c) of the *Local Government (District Authorities) Act, Cap. 287 R.E. 2002* stipulates that:

"In performance of their functions, local government authorities shall provide for the protection and proper utilization of the environment for sustainable development".

The *Local Government (District Authorities) Act, Cap. 287 R.E. 2002* is the principal legislation which confers mandate of formulating and enacting by-laws. The legislative powers of district councils are provided for in section 148 of the Act. Section 148(1) provides that district councils have powers to make by-laws subject to the *Local Government (District Authorities) Act, Cap. 287 R.E. 2002* and any other relevant written law. However, any by-law that is

made must receive the consent of the Minister responsible for local government to be valid. The sub-section provides that such by-laws may be made by the district council and designed to achieve the following:

(a) to promote and secure the good rule and orderly government of its area of jurisdiction;
(b) to foster and maintain the health, safety and well-being of the inhabitants of its area of jurisdiction; and
(c) for carrying into effect and for the purposes of any of the functions conferred by or under the Act or any other written law.

It is clear that the district councils have powers to enact by-laws in matters related to public order and security as well as to sanitation and environment. The councils are given general and wide legislative powers under section 148 (1) (1) and they can virtually legislate on anything.

The local government authorities in urban authorities and district councils as well as village councils have made a number of by-laws that deal with the protection of the environment. However analysing these by-laws has revealed that most of them are crafted in the command and control approach. That means aspects of EIA are not reflected in such by-laws.

EIA Practice in Mainland Tanzania

As much as EIA became legally mandatory recently through the *Environmental Management Act, 2004* that does not mean that it has not been carried out prior to the enactment of the law. Many EIAs have been conducted, reviewed and approved by NEMC submitted by developers in most cases as conditionality from the banks and other financial institutions. That means Mainland Tanzania has an experience in the conduct of EIA. However the *Environmental Management Act, 2004* provides that it is only EIA experts registered by the NEMC who will be allowed to carry out EIA. In providing for registration procedure and ethical conduct of such experts the Minister responsible for environment has promulgated the *Environmental (Registration of Environmental Experts) Regulations, 2005*.

PROPOSED ACTIVITY

EL – 1 Capacity building for District Environmental and Social Assessment staff

Current status

As described above the development of environmental framework legislation and EIA regulations is fairly recent in Tanzania. Local Government Authorities play an important role in accompanying the EIA process for developments in their area of jurisdiction in a professional manner. Hence, LA staff needs to be fully aware of the EIA legislation and practices.

Concept and beneficiaries

The main objective is to build capacity in LAs to fully participate in the EIA process in Tanzania for projects that fall within their districts. This includes

screening of proposals to complement the NEMC screening process, critically reviewing scoping and full EIA reports. Furthermore, the LAs shall be able to guide the public through public hearings and make the public aware of their role in the EIA process. Equipped with this knowledge, LA will be able to make decisions that benefit the environmentally friendly economic development in their districts and/or influence the national EIA process in their favour. Although primary beneficiaries are LA staff, the general public will benefit through better decision making.

Proposed activities
The main activity should begin with the selection of a training partner institution, capable of assessing training needs to staff in eight participating LAs in the LVB. Then to develop training materials and select study sites and undertake the training and field visits, mindful of the need to conduct a training evaluation. Select second batch (of ten) participating LAs and repeat procedures, with programme running for five years in total.

Indicative budget
The indicative budget for this activity is US$ 300,000, mostly for use in training costs (fees, travel and materials).

Monitoring and evaluation
The monitoring of this project will in addition to simple output monitoring, e.g. number of trainings conducted etc., include a Knowledge, Attitude and Practice (KAP) study among LA staff to assess their legal knowledge, which will be repeated after the project to assess the impact the training has made. After each training module there will be a monitoring of feedback of participants, which should be developed as an integral part of the training programme developed by the respective institution. This will serve the purpose of monitoring and improving training quality.

Potential partners
Local District Authorities, NEMC, UDSM, training institutes.

Timeframe: EL – 1 Capacity building for District Environmental and Social Assessment staff

Quarters / Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Detailed project design and planning																				
Design of monitoring programme																				
Selection of participating districts																				
Assessment of prevailing knowledge and training needs assessment (KAP study)																				
Design of training materials																				
Conduct training of LAs																				
Monitoring of training and effectivenss of trainees																				
Evaluation (repeated KAP)																				

Summary

EL 1 – 1 Capacity building for District Environmental and Social Assessment staff

Collaborators: NEMC, District Authorities, UDSM.

Objectives: To establish a unit at LA level within the District Natural Resources Office or the District Planning Office, which is fully aware of EIA and SIA legislation and procedures, trained to review EIAs submitted by developers in their area of jurisdiction so that they can comment and participate in the review process in a competent manner. Furthermore, LAs should be able to undertake independent monitoring of environmental management programmes implemented by developers as a result of an EIA.

Beneficiaries: Local authorities and communities at large through more environmentally friendly development.

Budget (indicative): US$ 300,000

Procedure: Staff in the pilot districts will be made aware and trained to fully understand the environmental legal context of EIA/SIA and to be competent partners of developer in their area that are to undergo an EIA process. The training will be practical and include case studies of real EIAs. After the training the LAs should be able to undertake screening of proposals, understand the role of scoping reports, be able to review and comment on TOR for EIAs, critically review EIA reports, monitor environmental management programmes implemented by developers subsequently to the EIA.

Timeframe (indicative)

Selection of participating districts and partner institutions – 3 months.

Design of training materials and methods – 1 month.

Implementation and monitoring – ongoing throughout 36 month period.

Milestones

1. Training programme and materials developed by the end of first quarter
2. Four LAs trained by the end of the first six months
3. Four more LAs trained by the end of the first year.
4. Ten more LAs trained by the end of the third year.
5. Training monitoring continuously and evaluation at project end, after fiver years.

3.9 CBO and NGO Capacity

Main objective: To propose strategies to use Community Driven Development (CDD) approaches for natural resources management. This assignment aims at creating an inventory and assessing the capacity of existing CBOs, NGOs and other community-based institutions that are undertaking community driven development projects. These tasks will be reached through; a) identifying shortcomings; b) proposing strategies for capacity building; c) proposing areas for new investments, and d) proposing strategies for participating approaches.

Progress

The review of secondary data was complemented by consultations with NGOs in all regions in the LVB. A situation analysis was conducted at five selected sites and included consultations and meetings with government officials, CBOs, and NGOs. The Consultant carried out focus group discussions in the

districts of Magu, Bukoba Urban, Muleba, Biharamulo and Ilemela. The findings of the situation analysis were presented and discussed in a seminar organized jointly with the micro-finance component of the consultancy, in Mwanza on 5. August 2006. During this meeting a 'Facilitation for Change' Action Plan was developed, which involved a total participation of 20 participants (see Annex 4.4).

BACKGROUND

CBO and NGO Capacity in the Lake Victoria Basin

Community Participation Guidelines for LVEMP were developed in 1998, and this consultancy followed these guidelines to obtain community opinions and suggestions for establishment of community based natural resources investments. An inventory of Community Based Organizations (CBOs) and Non-Governmental Organizations (NGOs) engaged in the natural resources investment in the LVB was established. From within the three regions of Mara, Mwanza and Kagera, the inventory identified 133 NGOs operating in the LVB (see Annex 4.6). The capacity of the CBOs and NGOs was assessed.

The LVEMP-1, Community Participation, Lessons Learned Final Report (Kessy, 2005) defines Community Participation as:

> " *A process where beneficiaries or stakeholders influence the direction and execution of a development project from the initiation of the project ideas to the planning, implementation, and monitoring and evaluation. This is a strategy to ensure ownership, efficiency, and sustainability of development projects/programs*"

Thus, throughout this assignment Community Participation was considered with a view of instigating ownership and enhancing awareness and knowledge on sustainable management of LVB resources. Efforts have been made in the whole process of this assignment to involve local communities, local NGOs, Private Sector Organizations (PSOs) and CBOs, so as to enable them to facilitate the process of community participation and ownership. Based on these efforts, it is anticipated that communities that are knowledgeable, capable and committed to sustainable management of resources in the LVB will emerge eventually.

The Situation Analysis involved generating comprehensive field information about CBOs, NGOs and other groups, and discussing with them about the factors behind the information generated. The main comments made during the focus group discussions are presented in Annex 4.7, and the analysis of the findings is presented in the subsequent paragraphs below.

Capacity

The aim of this aspect was to help NGOs, CBOs and other community-based institutions to determine their managerial and institutional capacity as well as

their ability to undertake community development approaches that manage natural resources.

Based on meetings and observations the Consultant concludes that building institutional capacity is a difficult task for many CBOs and NGO. People in the LVB are at a very early stage of learning how to organise and manage public activities. New skills and knowledge are required to set up and operate an efficient and stable public organisation with a proper structure and arrangements for the management of its day-to-day activities, the allocation of functions and responsibilities, mobilization of people for action and maintaining effective accounting and reporting procedures. Many district based NGOs have succeeded in this respect, although they face serious difficulties relating to the interaction of members within an organization, as well as between organizations that are pursuing different goals.

Lack of information is another capacity constraint. The weak technical capacity of CBOs and NGOs operating in the LVB makes both access to, and dissemination of natural resources investment information difficult. Over half of all NGOs in the LVB do not have access to the Internet and electronic mail, and their information sources are limited to mass media, contacts by phone, personal contacts and correspondence by mail.

Many CBOs are operating without proper documentation and there is a lack of coherent and detailed information on community participation activities, including details of sites where activities are being executed. There is a need to enhance capacity for CBO leaders to learn on how to document their activities.

Personnel from existing CBOs recognise the need to increase study visits to other areas with best practices documented and shared. From the workshop in Mwanza, it appeared that CBOs benefit from the exchange of ideas and the learning from each other.

Financial and technical support

The stakeholder's workshop has identified inadequate financial and technical support to community-based micro-projects as a shortcoming that needs to be addressed. A communication gap appears to exist between CBOs and financing institutions that support development projects in the LVB. The lack of technical support has contributed to the failure of some projects, particularly with respect to understanding and planning to sustain projects beyond the donor-funding. The financing institutions have made it clear that they cannot run their business without making profit. CBOs need to link with finance institutions to get the required information.

Facilitation for Change Action Plan

The 'Facilitation for Change' Action Plan was developed during the seminar which involved a total participation of 20 participants representing CBOs and NGOs from Musoma, Magu, Misungwi, Biharamulo, Bukoba, Muleba of the three regions (Mwanza, Mara and Kagera). This plan of action puts into consideration all major constraints reported by CBOs and NGOs in the three re-

gions of Mwanza, Mara and Kagera. During the community workshop held in Mwanza on 5 August 2006, all workshop participants agreed to select the most difficult problems and make collective plans for dealing with them. The problems identified and mitigation measures proposed were:

a) Communication
There exists a gap in access to information and CBOs have expressed their concern for not having enough information on where and how to obtain loans to enable them establish profitable natural resource investment projects. Financing institutions could help fill the gap and reach CBOs with more updated information. CBOs should also be helped to improve their communication skills.

b) Funding
CBOs and local NGOs do not have direct exposure to banks and other financing institutions. They consider credit societies to be very demanding and charging very high interest rates. There is often not enough time from the time of receipt of a loan to the start of re-payment of loan with interest. Credit societies cannot provide funds without high interest rates. Instead, CBOs need to be business minded and not use funds unaccountably. CBOs need to begin considering forming Credit societies and joining SACCOS groups, and district officials should be able to assist and encourage the establishment of SACCOS in each Ward.

c) Management skills
These are inadequate for project management and it was openly noted that CBOs and local NGOs are operating without proper guidance and scientific knowledge. Lack of managerial skills has caused some projects to collapse or operate at financial loss. Some CBOs that managed to obtain loans were unable to return the loan and had some of their belongings confiscated. Capacity building is needed in areas of project management, book-keeping, accounting and proposal writing. CBOs and NGOs need officers knowledgeable on their respective roles and district Sartorial Officers should jointly organize with CBOs/NGOs on the best methods of monitoring their activities.

d) Technical support
There is a lack of extension services and investment in the agricultural sector has been reported to have been jeopardized by lack of agricultural experts. The few existing agricultural experts are based in urban areas leaving the villages with no consultants. There are no aquaculture experts to assist, promote or advise farmers. The government should consider deploying more experts in areas specific for certain type of activities, rather than giving equal distribution of experts to all districts. Agricultural Officers should be empowered to enable them to visit farmers more frequently.

e) Markets
There is a lack of organized markets and workshop participants expressed their concern for not having favourable markets for their products. This has contributed to the poverty of people living in the LVB despite different ef-

forts in areas of agriculture and fishing. NGOs need to assist in making strong advocacy for fair trade within the LVB. Markets need to be organized at each Ward level to enable farmers and fishermen to get fair treatment. Villagers need to be educated about official measuring scales. Irresponsible business persons need to be dealt with accordingly by the government

f) Impact of the Project

Workshop participants have assessed LVEMP-2 proposals on natural resources investment as potentially bearing the most expected poverty alleviation impact on the communities around LVB. The promising impact is indicated in the way local communities have been involved from the planning stage. This already paves a way for project ownership as well as sustainability. The workshop has highlighted different financing mechanisms which could well be utilized by CBOs and local NGOs. This is the major strength of this proposed project.

PROPOSED ACTIVITY

CO 1 – District CBO and NGO Training Unit

Current status

Community based organizations within the LVB are operating with little guidance and professionalism. There are more than 300 CBOs in the regions of Mara, Mwanza and Kagera. These groups operate small businesses with little or no training at all, which has resulted in failures among group members to improve their life standards and they continue to operate below profit lines. The proposed intervention will equip CBOs with proper knowledge and understanding on basic business management skills.

Concept and beneficiaries

Each of the 23 districts in the regions of Mara, Mwanza and Kagera will appoint one district official who will be responsible for the management of the training unit for CBOs in his/her respective district. This district official will be responsible for the selection of CBO trainers who will be moving to different wards and villages to train CBOs on different issues depending on the need and priority of the specific CBO. General priority capacity areas have been identified during the CBO workshop which took place in Mwanza, on 5 August 2006 (see above). The CBO trainers will first be trained at each district headquarters and that is where their base and office will be. The appointed district official will be responsible for all the planning and allocation of training needs within his district.

The training unit for CBOs will have the following benefits:

- Improved investment technology among local CBOs;
- Sustainability of projects due to improved understanding of project management;
- Increased trust and financial accountability among CBOs that could lead to more funding to local NGOs and CBOs;

- Improved living standards of NGO and CBO members and programme participants;
- Encouragement for more CBOs to engage in natural resource investment.

Primary beneficiaries will be CBOs, NGOs and their members.

Proposed activities
It is proposed that responsible districts will create awareness to all registered and non registered CBOs in their respective districts, informing them about the availability of the capacity building services within their district. In order to avoid creation of new positions, the Ward Executive Officer (WEO) is proposed to coordinate CBOs in his/her Ward as far as capacity building is concerned. All CBOs will then be required to submit their training needs in writing to their training coordinator. CBOs located in the same Ward or village (with similar training needs) will be grouped to receive trainings together. CBOs will be responsible for allocating venue and all other required modalities for the training. The appointed district official will be responsible for all the monitoring and reporting of the CBO capacity building Unit. He/she will be evaluating the performances of all trainers in his/her district. The number of trainers will depend on the vastness of the CBOs and geographical positioning of Wards and villages in each district.

Indicative budget
It is estimated that the cost for training CBO trainers in all 23 districts will be US$ 20,000. Transport costs and training for CBOs will cost US$ 100,000. Monitoring, reporting and evaluation will cost US$ 20,000.The total indicative budget is US$ 140,000, for three years.

Monitoring and evaluation
It is important that not only the individual training events will be monitored to ensure high training quality, but also the training unit as such needs to be monitored carefully to ensure quality, demand-driven curriculum design and transparency. Appropriate monitoring indicators need to be developed from the outset. While the continuous monitoring could be undertaken by the unit itself, there should be bi-annual reports to the District Executive Director (DED) and an annual independent evaluation by an outside training institution. Feedback questionnaires from the NGO and CBO training participants and assessment of improvement in their practices should be tools applied during the evaluation to assess the impact that the training unit will have.

Potential partners
CBOs, NGOs, District Councils.

Timeframe: CO 1 – District CBO special training unit

Quarter	1	2	3	4	5	6	7	8	9	10	11	12
Activities												
Establishment of District CBO training Unit												
Identification of priority training needs												
Identification of CBO Trainers at district level												
Training of CBO Trainers at district headquarters												
Training of CBOs at different Ward and Village locations												
Monitoring of the training process by appointed district official												
Evaluation and final reporting												

Summary

CO-01 District CBO special training unit

Collaborators: CBOs, NGOs, District Councils
Objectives: To increase CBOs capacity in dealing with natural resources investment
Beneficiaries: Local CBOs, SMEs and individual local investors in natural resources.
Budget (indicative): US$ 140,000
Procedure: Staff in the pilot districts will be made aware and trained to fully understand the environmental legal context of EIA/SIA and to be competent partners of developer in their area that are to undergo an EIA process. The training will be practical and include case studies of real EIAs. After the training the LAs should be able to undertake screening of proposals, understand the role of scoping reports, be able to review and comment on TOR for EIAs, critically review EIA reports, monitor environmental management programmes implemented by developers subsequently to the EIA.
Time frame (indicative)

- Establishment of District CBO training office - 2 months
- Selection of trainers and TOT - 2 months
- Training CBOs and reporting – Ongoing for total of three years.

Milestones
1. Appointment of district training coordinator
2. Selection of CBO trainers
3. Training of Trainers
4. CBO trainings in Wards and Villages
5. Monitoring, Evaluation and Reporting

3.10 Project Logical Framework

The Logical Framework below describes the LVEMP-2 Programme Goal, Purpose and Outputs. These have been taken from the relevant LVEMP literature where in most cases they are presented as Project 'Visions'. Beyond the project Purpose are presented details of the 42 proposed activities resulting from this Consultancy, in the same order as they appear in the previous eight sections of this report. Logical Framework Analysis serves as a way to structure and described projects in a logical manner, thus functioning as an aid to logical thinking, rather than as a project planning tool (Gosling & Edwards, 1995). The framework below should be modified and fine-tuned where necessary to meet the requirements of the stakeholders.

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
SUPER GOAL			
"Halving the proportion of people living in extreme poverty by 2015" - MKUKUTA	• 50% of LVB population above the poverty line.	• National and international poverty monitoring indices.	• Improved security. • Improved socio-economic status.
GOAL			
"A Basin with the resources sustainably managed and communities having equitable high standard of living" National Stakeholder Shared Vision, Tanzania 2003	• Food security indicators. • Measures of change in capabilities, assets and activities.	• National and local level monitoring of poverty and livelihoods (household surveys, employment statistics etc.). • WHO reports. • LVEMP-2 evaluations.	• Political stability maintained.
PURPOSE			
"A prosperous livelihood and enhanced management of ecosystems, natural resources and a clean and healthy environment" Regional Vision for ecosystems, natural resources and environment - EAC, 2005. [short term objective: life-span of LVEMP-2]	By 2012, evidence of application of LVEMP-2 activities for agriculture, fisheries, mining, eco-tourism, infrastructure, community involvement, environmental legislation and micro-financing, by at least two of the following: • Poor people. • Institutions supplying services to the poor. • Employers of the poor. • Policymakers.	• National and local level surveys of production, employment, food markets, nutrition in fisheries sector, including: • Reports of target institutions. • National production statistics. • Evaluation of fisheries management programme. • Research programme reports. • Monitoring against baseline data.	• Poor people invest benefits to improve livelihoods.

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
OUTPUTS **1. AGRICULTURE** Priority agricultural investments identified and implemented leading to increased agricultural productivity and reduced poverty among farmers in the LVB.	• By end of Year 2, at least 6 demonstration projects of dairy and chicken farming and high-yield breeds of a range of crops set up and training to 500 farmers provided. • By end of Year 3, new technologies adopted by farmers and further 500 farmers trained, and micro-credit facility developed. • By end of Year 5, household surveys shows improvement in livelihoods indicators compared to baseline.	• Project reports. • Monitoring Programme reports. • Training materials and investment promotion publications. • Requests for training and micro-credit received from farmers. • Uptake of investment opportunities by collaborating institutions/stakeholders, monitored and reported in Annual Report. • Household survey. • Evaluation report.	• Farmers are receptive to new species and new technologies. • Farmers are able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. drought.
AG 1 – To facilitate enterprise development for milk production from dairy cows and goats.	• Identify and subcontract suitable Activity Manager to engage in activity. • Site selection and formation of farmer groups. • Education materials designed and distributed to farmers. • Purchase of high-yield milking cows and goats. • Farmers active in and expanding milk production.	• Project reports. • Training materials and investment promotion publications. • Requests for training and micro-credit received from farmers. • Uptake of investment opportunities by collaborating institution, monitored and reported in Annual Report. • Household survey.	• Farmers are receptive to new technologies. • Farmers are able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. drought. • Demand for milk increases.
AG 2 – To facilitate and improve chicken rearing.	• Identify and subcontract suitable Activity Manager to conduct trials and training. • Site selection and formation of farmer groups. • Education materials designed and distributed to farmers. • Improved access to vaccines. • Farmers trained in cross-breeding and increasing chicken production.	• Project reports. • Training materials and investment promotion publications. • Requests for training and micro-credit received from farmers. • Uptake of investment opportunities by collaborating institution, monitored and reported in Annual Report. • Household survey.	• Farmers are receptive to new species and new technologies. • Farmers able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. drought. • Demand for chickens increases.

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
AG 3 – To improve cassava farming.	• Identify and subcontract suitable Activity Manager to conduct training. • Site selection and formation of farmer groups. • Education materials designed and distributed to farmers. • Training in post-harvest methods. • Improved access to market information. • Farmers trained and investing in cassava processors and chippers.	• Project reports. • Training materials and investment promotion publications. • Requests for training and micro-credit received from farmers. • Uptake of investment opportunities by collaborating institution, monitored and reported in Annual Report. • Household survey.	• Farmers are receptive to new species and new technologies. • Farmers are able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. drought. • Demand for cassava increases.
AG 4 – To improve sweet potato farming.	• Identify and subcontract suitable Activity Manager to conduct training. • Site selection and formation of farmer groups. • Education materials designed and distributed to farmers. • Training in post-harvest methods. • Improved access to market information. • Farmers trained and investing in sweet potato processors and chippers.	• Project reports. • Training materials and investment promotion publications. • Requests for training and micro-credit received from farmers. • Uptake of investment opportunities by collaborating institution, monitored and reported in Annual Report. • Household survey.	• Farmers are receptive to new species and new technologies. • Farmers are able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. drought. • Demand for potatoes increases.
AG 5 – To improve productivity of cotton farming.	• Identify and subcontract suitable Activity Manager to conduct training. • Site selection and formation of farmer groups. • Education materials designed and distributed to farmers. • Training in high-yield and disease-resistant cotton varieties. • Training in post-harvest techniques and improved access to market information. • Farmers trained and investing in high-yield varieties and farm facilities.	• Project reports. • Training materials and investment promotion publications. • Requests for training and micro-credit received from farmers. • Uptake of investment opportunities by collaborating institution, monitored and reported in Annual Report. • Household survey.	• Farmers are receptive to new species and new technologies. • Farmers are able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. drought • Demand for cotton increases.

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
AG 6 – Introduce maize as a horticultural crop.	• Identify and subcontract suitable Activity Manager to conduct training. • Site selection and formation of farmer groups. • Education materials designed and distributed to farmers. • Training in high-yield and disease-resistant maize varieties. • Training in post-harvest methods. • Improved access to market information. • Farmers trained and investing in maize production.	• Project reports. • Training materials and investment promotion publications. • Requests for training and micro-credit received from farmers. • Uptake of investment opportunities by collaborating institution, monitored and reported in Annual Report. • Household survey.	• Farmers are receptive to new species and new technologies. • Farmers are able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. drought. • Demand for cotton increases.
AG 7 – Introduce agroforestry.	• Identify and subcontract suitable Activity Manager to conduct trials and training. • Site selection and formation of farmer groups. • Education materials designed and distributed to farmers. • Trained in value of different tree species and care. • Farmers investing in forestry.	• Project reports. • Training materials and investment promotion publications. • Requests for training and micro-credit received from farmers. • Uptake of investment opportunities by collaborating institution, monitored and reported in Annual Report. • Household survey.	• Farmers are receptive to new species and new technologies. • Farmers are able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. drought. • Demand for forest products increases.
AG 8 – Facilitate investments in grain banking.	• Identify and subcontract suitable Activity Manager to conduct trials and training. • Establishment of demonstration grain banks. • Training in financial management of and access to credit for grain banks. • Improved access to microcredit. • Farmers using grain banks.	• Project reports. • Training materials and investment promotion publications. • Requests for training and micro-credit received from farmers. • Uptake of investment opportunities by collaborating institution, monitored and reported in Annual Report. • Household survey.	• Farmers are receptive to new species and new technologies. • Farmers are able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. drought. • Demand for grain storage increases.

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
AG 9 – Intensity Jatropha production.	• Identify and subcontract suitable Activity Manager to conduct trials and training. • Site selection and formation of farmer groups. • Education materials designed and distributed to farmers. • Training in Jatropha cultivation. • Improved access to market information. • Farmers investing in Jatropha production.	• Project reports. • Training materials and investment promotion publications. • Requests for training and micro-credit received from farmers. • Uptake of investment opportunities by collaborating institution, monitored and reported in Annual Report. • Household survey.	• Farmers are receptive to new species and new technologies. • Farmers are able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. drought. • Demand for Jatropha products increases.
AG 10 – Develop community afforestation.	• Identify and subcontract suitable Activity Manager to conduct trials and training. • Site selection and formation of community afforestation groups. • Education materials designed and distributed to groups. • Training of groups in value of different tree species and care. • Community forests expanding.	• Project reports • Training materials and afforestation promotion publications. • National press.	• Collaborators are receptive to participating in ecological restorations of LVB. • No major climatic shocks, e.g. drought.
2. FISHERIES Priority investments in the fisheries sector identified and implemented leading to improved fish quality and reduced poverty among artisanal fishers in the LVB.	• By end of Year 2, internationally-accredited chemical testing facility at NFFI, 2nd 10 solar drier site demonstrations underway, both sites selected for RADCs and construction underway, 4 mobile training units for BMUs established and training underway, 8 fish landing site improvements underway and solar drier demonstrations completed at 20 sites. • By end of Year 3, NFFI chemical testing facility fully utilised by private sector, micro-finance utilised for fish drier equipment, Tilapia yields reported for	• Project reports. • Monitoring Programme reports. • Training materials and investment promotion publications. • Requests for training and micro-credit received from fishers or fish trader groups. • Uptake of investment opportunities by collaborating institution, monitored and reported in Annual Report. • Household survey. • Evaluation report.	• Fishers, fish traders and processors receptive to new species and new technologies. • Fishers, fish traders and processors able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. drought.

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
	beneficiaries of RADCs, mobile training units for BMUs completing 2nd visits to all landing sites, 1st batch of 8 landing sites with improvements completed and 2nd batch of 8 landing sites with renovations underway. • By end of Year 5, household surveys shows improvement in livelihoods indicators compared to baseline.		
FI 1 – Solar drier demonstration and credit facility.	• Identify and subcontract suitable Activity Manager to conduct trial. • Site selection and formation of target group/s. • Education materials designed and distributed to fish processors. • Construct solar driers and establish group usage. • Fish processors investing in driers.	• Project reports. • Training materials and investment promotion publications. • Requests for training and micro-credit received from fish processors. • Uptake of investment opportunities by collaborating institution, monitored and reported in Annual Report. • Household survey.	• Fish processors receptive to new technologies. • Fish processors able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. drought.
FI 2 – Mobile training units for BMU business and environmental management training.	• Identify and subcontract suitable Activity Manager to conduct training. • Site selection and formation of target group/s. • Education materials designed and distributed to fish processors. • First batch of training of BMUs. • Second batch of training of BMUs.	• Project reports. • Training materials and investment promotion publications. • Uptake of investment opportunities by collaborating institution, monitored and reported in Annual Report. • Household survey.	• BMU staff, fishers and traders receptive to new technologies and training. • No major climatic shocks, e.g. drought.
FI 3 – Creation of two Regional Aquaculture Demonstration Centres (RADCs).	• Identify and subcontract suitable Activity Manager to undertake the tasks. • Identify sites for the two RADCs. • Building of the two RADCs. • Training and supply of fingerlings to fish farmers. • Supply of feeds to fish farmers.	• Project reports. • Training materials and investment promotion publications. • RADCs Annual Reports. • Records of request for micro-credit received from Tilapia fish farmers. • Household survey.	• Fishers/farmers receptive to new technologies. • Fishers/farmers able to comply with the conditions of the micro-credit institutions. • No major climatic

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
	• RADCs self-supporting.		shocks, e.g. drought.
FI 4 – Internationally accredited chemical testing facility NFFI, Mwanza.	• Identify and subcontract suitable Activity Manager to coordinate development of the testing facility. • Procurement of necessary equipment. • Coordination of technical training of NFFI staff. • Registration for international accreditation. • NFFI facility functional and fully accredited.	• Project reports. • Uptake of investment opportunities by NFFI, monitored and reported in Annual Report. • Records of samples tested at NFFI by LVB fish processing factories. • International certificate of chemical testing in food.	• NFFI management and infrastructure supportive of development.
FI 5 – Improved infrastructure at selected fish landing sites.	• Identify and subcontract suitable Activity Manager to coordinate improvements. • Site selection and formation of first target group/s. • Construction of improved facilities at landing sites. • Site selection and formation of second target group/s. • Construction of improved facilities at landing sites.	• Project reports. • Uptake of investment opportunities by BMUs, monitored and reported in Annual Report. • Household survey.	• Fishers and traders receptive to new technologies. • Continued fish catches and need for improvements at landing sites. • No major climatic shocks, e.g. drought.
3. MINING Small scale mining sector better recognised in national economy, working conditions and livelihoods of SSMs improved and environmental impacts reduced.	• By end of Year 2, detailed economic survey of small-scale miners (SSMs) in LVB underway, training underway for improvement of equipment, micro-finance access, environmental, social and health issues. • By end of Year 3, detailed economic survey of SSMs in the LVB reaching conclusions, training continuing for SSMs. • By end of Year 5, household surveys shows improvement in livelihoods indicators compared to baseline.	• Project reports. • Monitoring Programme reports. • Training materials and investment promotion publications. • Requests for micro-credit received from SSMs. • Household survey. • Evaluation report.	• SSMs receptive to new ideas and technologies. • SSMs able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. floods.
MI 1 – Detailed economic survey conducted among SSM sector with the aim	• Identify and subcontract suitable Activity Manager to conduct longitudinal survey	• Project reports. • Dissemination materials. • Feedback from national	• SSMs willing to cooperate in study and disclose in-

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
for achieve better recognition in the system of national accounts.	of small scale mining industry in the LVB. • Analysis and dissemination of results for better integration of SSM sector in the system of national accounts.	mining institutions.	formation. • Bureau of Statistics and Ministry of Energy and Minerals receptive and supportive.
MI 2 – Improvement of equipment and training of SSM.	• Identify and subcontract suitable Activity Manager to conduct training. • Site selection and formation of target group/s. • Education materials designed and distributed to SSMs. • Training of SSMs in financial management of and access to credit for equipment. • Improved access to micro-credit. • Use of better equipment.	• Project reports. • Training materials and investment promotion publications. • Records of request for micro-credit received from SSMs. • Household survey.	• SSMs receptive to training and new technologies. • SSMs able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. severe floods.
MI 3 – Improvement of environmental, social and health awareness amongst SSMs.	• Identify and subcontract suitable Activity Manager to conduct training. • Site selection and formation of target group/s. • Education materials designed and distributed to SSMs. • Training of SSMs in environmental, social and health issues. • Training of trainers (LAs staff). • Improved conditions for miners.	• Project reports. • Training materials. • Participation in training programme by LAs, monitored and reported in Annual Report. • Household survey.	• SSMs receptive to training. • LA staff receptive and available for training. • No major climatic shocks, e.g. severe floods.
4. INFRASTRUCTURE Gaps in LVB infrastructure identified and improvements made to road networks, railway system, water transport, communication and air transport.	• By end of Year 2, construction underway on vehicle washing yards at 3 sites, overnight safe vehicle parking at 5 sites, surfacing of Kamanga - Sengerema road, oil collection centres in 3 regions and improvement to road Bukoba Port access road. Navigation safety provisions being overhauled, clearing and dredging of Musoma, Mwanza and Bukoba ports underway, search	• Project reports. • Monitoring Programme reports. • Training materials for TCRA staff. • LA, airport, port, SUMATRA, railway and collaborating institutions/stakeholders, monitored and reported in Annual Report. • Household survey. • Evaluation report.	• No major climatic shocks, e.g. floods or further severe reduction of LV water level.

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
	and rescue equipment for Mwanza airport and GNSS approach procedures being installed at 4 other airports, navigational aid equipment being installed at 3 airports, upgrading of Musoma Airport underway, study to maximise railway benefits and training to staff of the TCRA initiated. • By end of Year 3, all constructions, road, equipment installation, port and airport upgrades, studies and training completed. • By end of Year 5, household surveys shows improvement in livelihoods indicators compared to baseline.		
IN 1 – Vehicle washing yard at Musoma, Mwanza and Bukoba (with oil separating units).	• Identify and subcontract suitable Activity Manager to design and construct washing facilities. • Site selection and legal issues resolved. • Construction of facilities. • Local by-laws introduced. • Registration and closure of existing washing stands.	• Project reports. • LA Annual Reports. • Vehicle washing yard Annual Reports.	• No major climatic shocks prevent construction, e.g. severe floods.
IN 2 – Establishmenent of overnight safe vehicle parking at five sites in LVB.	• Identify and subcontract suitable Activity Manager to design and construct parking facilities. • Site selection and legal issues resolved. • Local by-laws introduced. • Construction of facilities.	• Project reports. • LA Annual Reports. • Parking site Annual Reports.	• No major climatic shocks prevent construction, e.g. severe floods.
IN 3 – Kamanga - Sengerema road (~ 50 km).	• Identify and subcontract suitable Activity Manager to design and construct road. • Legal issues resolved. • Construction of road.	• Project reports. • LA Annual Reports.	• No major climatic shocks prevent construction, e.g. severe floods. • No land cquisition problems.

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
IN 4 – Establishment of oil collection centres in Mara, Mwanza and Kagera Regions.	• Identify and subcontract suitable Activity Manager to design and construct oil collection facilities. • Site selection and legal issues resolved. • Local by-laws introduced. • Construction of facilities. • Registration and closure of existing washing stands.	• Project reports. • LA Annual Reports. • Collection centre Annual Reports.	• No major climatic shocks prevent construction, e.g. severe floods.
IN 5 – Road infrastructure Bukoba Port access (4.6km).	• Identify and subcontract suitable Activity Manager to design and construct road. • Legal issues resolved. • Construction of road.	• Project reports. • LA Annual Reports.	• No major climatic shocks prevent construction, e.g. severe floods. • No land cquisition problems.
IN 6 – Overhaul of LV navigation safety provisions.	• Identify and subcontract suitable Activity Manager to conduct overhaul. • Legal issues resolved. • Construction and installation of navigation facilities. • Bathymetric surveys of selected areas. • Purchase and trials of three rescue vessels. • Full trial of all facilities and equipment.	• Project reports. • LA Annual Reports. • SUMATRA Annual Reports. • Port authorities shipping records and Annual Reports.	• No major climatic shocks prevent construction, e.g. severe floods. • Bathymetric survey equipment available.
IN 7 – Clearing and dredging of Musoma, Mwanza and Bukoba ports.	• Identify and subcontract suitable Activity Manager to undertake clearing and dredging. • Clearing and dredging at three ports. • Expansion of Musoma port. • Repair of breakwater at Bukoba port.	• Project reports. • LA Annual Reports. • SUMATRA Annual Reports. • Port authorities shipping records and Annual Reports.	• No major climatic shocks prevent construction, e.g. severe floods. • Suitable dredging equipment available.
IN 8 – Provision of search and rescue equipment for Mwanza airport.	• Identify and subcontract suitable Activity Manager to purchase and install equipment. • Equipment selection and purchase. • Training of airport staff. • Construction and installation of rescue equipment at	• Project reports. • LA Annual Reports. • Air transport authorities and SUMATRA Annual Reports.	• Staff receptive to training.

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
	Mwanza airport. • Full trial of rescue equipment.		
IN 9 – Provision of Global Positioning (GNSS) approach procedures.	• Identify and subcontract suitable Activity Manager to purchase and install equipment. • Four sets of equipment selected and purchased. • Training of airport staff. • Construction and installation. • Full trial of GNSS equipment at four airports.	• Project reports. • LA Annual Reports. • Air transport authorities Annual Reports.	• Staff receptive to training.
IN 10 – Provision of Navigational Aid Equipment for three regional airports.	• Identify and subcontract suitable Activity Manager to purchase and install equipment. • Equipment selection and purchase. • Training of airport staff. • Construction and installation of navigational aid equipment at three airports. • Full trial of navigational aid equipment.	• Project reports. • LA Annual Reports. • Air transport authorities Annual Reports.	• Staff receptive to training.
IN 11 – Upgrading of Musoma Airport.	• Identify and subcontract suitable Activity Manager to design and construct upgrade components. • Final design selection and legal issues resolved. • Construction of facilities. • New facilities fully operational.	• Project reports. • LA Annual Reports. • Air transport authority Annual Reports.	• No major climatic shocks prevent construction, e.g. severe floods.
IN 12 – Study to maximise railway benefits.	• Identify and subcontract suitable Activity Manager to conduct economic assessment of railway service to the LVB. • Analysis and dissemination of results for the promotion of improved railway services to LVB.	• Project reports. • LA Annual Reports. • National railways authorities Annual Reports.	• Railway users willing to cooperate in study and disclose information. • Railway authorities and private sector investors receptive and supportive.
IN 13 – Provision of training to TCRA staff.	• Identify and subcontract suitable Activity Manager to design methods and materials for training of TCRA staff.	• Project reports. • Training materials and publications. • Uptake of investment	• TCRA staff receptive to training.

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
	• Conduct training. • Evaluate training.	opportunities by TCRA, monitored and reported in Annual Report.	
5. ECO-TOURISM Potential areas for investments in the eco-tourism sector identified and strategies implemented leading to development of these areas in the region.	• By end of Year 2, training and capacity building for hotel staff and marketing and promotion of Kagera regions and Rubondo Island underway. Support provided for joint-venture tourism developments and management plans commissioned for development of sites of interest and work underway. • By end of Year 3, training and capacity building for hotel staff, marketing and promotion of Kagera regions and Rubondo Island and support for joint-venture tourism developments continuing and contacts made with foreign investors. Renovation continued at sites of cultural and natural beauty interest and micro-credit facility developed. • By the end of Year 5, household surveys shows improvement in livelihoods indicators compared to baseline.	• Project reports. • Monitoring Programme reports. • Training materials and investment promotion publications. • Requests for micro-credit received from eco-tourism developers. • Uptake of investment opportunities by collaborating institutions, monitored and reported in Annual Report. • Uptake of investment opportunities by foreign tourism investor partners approaching TIC, monitored and reported in Annual Report. • Household survey. • Evaluation report.	• Eco-tourism investors and employees receptive to training. • Eco-tourism investors able to comply with the conditions of the micro-credit institutions. • No major climatic shocks, e.g. droughts or floods. • No major social of economic threat to tourism development in East Africa.
ET 1 – Training and capacity building for hotel staff.	• Identify and subcontract suitable Activity Manager to design methods and materials for training of tourism staff. • Establish activity partners. • Finalise curriculum and training materials. • Conduct training. • Evaluate training.	• Project reports. • Training materials and publications. • Uptake of investment opportunities by tourism training institutions, monitored and reported in Annual Report.	• LVB tourism entrepreneurs receptive to training and new technologies.
ET 2 – Marketing and promotion of Kagera and Rubondo Island.	• Identify and subcontract suitable Activity Manager to coordinate marketing and promotion activities. • Establish activity partners.	• Project reports. • Promotion materials and publications. • Uptake of investment opportunities by tour-	• Tourism partners in Kagera and Rubondo receptive to training and new tech-

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
	• Finalise material design and programme of activities. • Produce materials and distribute. • Attend trade fairs.	ism investors approaching TIC, monitored and reported in Annual Report.	nologies. • No major social of economic threat to tourism development in East Africa.
ET 3 – Support for joint-venture tourism development.	• Identify and subcontract suitable Activity Manager to coordinate joint-venture tourism development. • Establish activity partners. • Identify beneficiaries. • Provide grants. • Monitor project development.	• Project reports. • Uptake of partnership investments by foreign tourism investors approaching TIC, monitored and reported in Annual Report. • Records of request for micro-credit received from local tourism investors for additional preparation studies for joint-ventures.	• Local tourism developers to comply with the conditions of the project grants. • No major social of economic threat to tourism development in East Africa. • No major climatic shocks, e.g. severe floods.
ET 4 – Commissioning of management plans and development of sites of interest.	• Identify and subcontract suitable Activity Manager to coordinate commissioning and undertaking of site development. • Establish activity partners. • Identify sites, management plans and conduct EIAs. • Provide restoration grants. • Undertake restoration. • Monitor site uptake by tourism sector.	• Project reports. • Uptake of new tourism destinations by tour operators, monitored and reported in Annual Reports. • New tourism destinations reported in local tour operator promotional materials. • Records of numbers of visitors to new tourism destinations.	• No major social of economic threat to tourism development in East Africa. • No major climatic shocks that affect construction, e.g. severe floods.
6. MICRO-FINANCE Micro-entrepreneurs provided with access to financial services in a commercial and sustainable manner and micro-finance industry in the LVB gaining impetus and strength. To produce a mature micro-finance sector that has a conducive policy environment with sufficient financial intermediaries (bank and non-bank financial institutions) and non-	• By end of Year 1, preparation for five micro-finance support activities completed. • By end of Year 2, start of small-enterprise access to capital provided by Investment Fund, trainer of trainers completed for 4 micro-finance activities. • By end of Year 3, at least 8,000 small-enterprise industry of LVB benefiting from access to business development services and at least 50 micro-finance insti-	• Project reports. • Monitoring Programme reports. • Training materials and investment promotion publications. • Requests for micro-credit received from small-enterprises. • Uptake of investment opportunities by collaborating institutions, monitored and reported in Annual Report. • Household survey.	• No major climatic shocks to natural resource production, e.g. droughts or floods. • No major social of economic threat to economic development in LVB.

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
financial service providers (BDS, credit bureaus, and rating agencies).	tutions (MFIs) providing improved services, and financial intermediaries strengthened and at least 1,000 micro-entrepr-eneurs better empowered to compete. • By end of Year 5, household surveys shows improvement in livelihoods indicators compared to baseline.	• Evaluation report.	
MF 1 – Small enterprise access to capital.	• Identify and subcontract suitable Activity Manager to undertake investment. • Verify lessons learnt from national Credit Guarantee Scheme. • Finalise approach. • Select implementing agency and sign MOU. • Select participating financial institution and sign MOU. • Implement activity.	• Project reports. • Signed MOU with collaborating financial institutions. • Records of request for micro-credit received from LVB small-enterprises.	• No major climatic shocks to natural resource production, e.g. droughts or floods. • No major social of economic threat to economic development in LVB.
MF 2 – Small enterprise access to Business Development Services.	• Identify and subcontract suitable Activity Manager to coordinate activity. • Identify training needs. • Select Business Development Service Provider and agree on procedures. • Conduct training of trainers' workshop. • Implement activity.	• Project reports. • Signed agreement with BDSP. • Records of request for BDS received from LVB small-enterprises.	• No major climatic shocks to natural resource production, e.g. droughts or floods. • No major social of economic threat to economic development in LVB.
MF 3 – Enhance MFIs to provide services.	• Identify and subcontract suitable Activity Manager to coordinate activity. • Identify training needs of MFIs. • Select participating MFIs and sign MOU. • Conduct training of MFIs. • Implement activity.	• Project reports. • Signed MOU with collaborating MFIs. • Records of request for micro-credit received from LVB small-enterprises.	• No major climatic shocks to natural resource production, e.g. droughts or floods. • No major social of economic threat to economic development in LVB.
MF 4 – Strengthen financial intermediaries to support MFIs.	• Identify and subcontract suitable Activity Manager to coordinate activity.	• Project reports. • Signed agreement with collaborating FTSPs.	• No major climatic shocks to natural resource produc-

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
	• Identify training needs of intermediaries. • Select Financial Technical Service Providers (FTSPs). • Conduct training of trainers' workshop. • Implement activity.	• Records of request for micro-credit received from LVB small-enterprises.	tion, e.g. droughts or floods. • No major social or economic threat to economic development in LVB.
MF 5 – Empowering micro-entrepreneurs to compete.	• Identify and subcontract suitable Activity Manager to coordinate activity. • Identify training needs of micro-enterprises. • Select Business Development Service Provider and agree on procedures. • Conduct training of trainers' workshop. • Implement activity.	• Project reports. • Signed MOU with collaborating BDSP. • Records of request for micro-credit received from LVB small-enterprises.	• No major climatic shocks to natural resource production, e.g. droughts or floods. • No major social of economic threat to economic development in LVB.
7. ENVIRONMENTAL LEGISLATION Local districts with strong capacity to implement environmental auditing and monitoring.	• By end of Year 1, training of trainers completed and at least 5 districts with staff being trained. • By end of Year 2, at least 10 districts with staff trained. • By end of Year 4, over 15 districts with staff trained. • By end of Year 5, all districts with staff trained and showing improvement in environmental awareness, auditing and monitoring skills compared to baseline.	• Project reports. • Monitoring Programme reports. • LA participation monitored and reported in Annual Report. • Training materials. • Evaluation report	• No major climatic shocks to natural resource production, e.g. droughts or floods. • No major social of economic threat to economic development in LVB.
EL 1 – Capacity building for district environmental and social assessment staff.	• Identify and subcontract suitable Activity Manager to coordinate activity. • Identify training needs of district environmental staff. • Select pilot districts. • Design training materials and curriculum. • Conduct training of LAs. • Conduct field visits.	• Project reports. • Training materials. • LA participation monitored and reported in Annual Report.	• No major climatic shocks to natural resource production, e.g. droughts or floods. • No major social of economic threat to economic development in LVB.
8. COMMUNITY-BASED ORGANISATIONS Local districts with strong	• By end of Year 1, training of trainers completed; 50 Ward /Village CBOs under training.	• Project reports. • Monitoring Programme reports. • LA participation moni-	• No major climatic shocks to natural resource production, e.g. droughts

OBJECTIVE HIERARCHY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS AND ASSUMPTIONS
capacity to support the development and effectiveness of community–based organisations (CBOs) and CBOs with improved performance and awareness.	• By end of Year 2, at least 100 Ward/Village CBOs trained. • By end of Year 4, over 300 Ward/Village CBOs trained. • By end of Year 5, surveys show improvement in CBO effectiveness compared to baseline.	tored and reported in Annual Report. • Training materials. • Evaluation report	or floods. • No major social of economic threat to economic development in LVB.
CB 1 – District CBO special training unit.	• Identify and subcontract suitable Activity Manager to coordinate activity. • Select pilot districts. • Establish District CBO Unit. • Design training materials and curriculum. • Identify training needs of district CBO staff and CBO trainers at district level. • Conduct training.	• Project reports. • Training materials. • LA participation monitored and reported in Annual Report.	• No major climatic shocks to natural resource production, e.g. droughts or floods. • No major social of economic threat to economic development in LVB.
INPUTS LVEMP staff and supported activities	Full implementation of 42 activities, over period of five years, each led by an Activity Manager, reporting to the Overall Fund Manager.		

3.11 Compilation of National Reports

Following approval of this Final Report, the Consultant Team Leader will begin to consolidate the Final Reports of parallel consultancies produced by the partner states of Uganda and Kenya. These documents have not been provided so far, but when received, a single, comprehensive Executive Summary will be prepared to summarise the main outputs of each, without technical input to the documents themselves.

Once completed, the Consultant will present the draft Report to the regional Stakeholder's workshop to create consensus at a regional level. The Regional Stakeholder's Workshop will be coordinated by the EAC Secretariat though the date for this workshop is unknown at present.

The Consultant anticipates that the consolidation of the three national consultancy final reports will require that the two additional documents be carefully examined and that the national reports are of suitable quality. It is further understood that before the compilation is initiated, all three documents will have been approved and that the responsibility for the standard and contents of each document lies with the EAC Secretariat.

This final compilation will be a *Regional Report of the Natural Resources Intervention and Investment Opportunities in the Lake Victoria Basin* with a detailed Executive Summery that draws together the main recommendation from the three national reports (included as annexes).

The timing of approval of all three national documents is not presently known to the Consultant, yet it is implicit that the EAC Secretariat ensures that all three documents are provided to the Consultant within a reasonable time for the compilation (at least one week).

4 Annexes

4.1 Objectives and Tasks of the Clients ToRs

Specific Objectives

i) To identify priority investments both short term and long term in the Lake Victoria Basin.

ii) To propose an establishment of an investment fund to support sustainable investments at the national and trans-boundary levels with specific emphasis on micro-enterprises.

iii) To assess environmental impact assessment legislation and capacity in the member countries, identify gaps, and propose strategies for harmonization.

iv) Propose strategies to use Community Driven Development (CCD) approaches for natural resources management.

Specific Tasks/Activities

The Consultant is expected to do the following Tasks:

i) Assess potential for agricultural products including non-traditional export crops and identify appropriate technologies for processing and packaging that would add value to products and suggest marketing improvement strategies.

ii) Identify strategies for artisanal fishing (fishing methods, processing, packaging) industry to improve the quality of products

iii) Identify potential for mining and processing with a view to adding value to exports and suggest strategies to maximize profits for artisanal miners and their protection from cartels.

iv) Assess the current status in communication; including road network, railway system, water transport in the region. Examine goods storage infrastructure including cold storage and go-downs. Identify gaps and propose strategies for improvement.

v) Identify potential areas of eco-tourism and propose strategies for development of these areas in the region

vi) Assess the micro-finance industry and their capacity to provide finance to SME's investments and propose strategies to develop an affordable and sustainable micro financing industry in the region.

vii) The Consultant will collaborate closely with the National Secretariat and liaise with consultants from other partner states to consolidate the National Reports into a Regional Report lead by Tanzania as lead Consultant. The lead Consultant from Tanzania would present the draft Report to the Regional Stakeholders' workshop coordinated by EAC Secretariat.

viii) Collate the information from national consultancies and present the Report to National Workshops. The Consultant should participate in the Regional Stakeholders' workshop coordinated by EAC Secretariat to create consensus on the Report at the regional level;

ix) Propose a strategy for the establishment of an investment fund to support sustainable investments at the national and trans-boundary levels with special emphasis on micro-enterprises.

x) Assess the environmental management legislation in the country and their suitability for implementation of the project.

xi) Inventory and assess existing CBOs, NGOs and other community based institutions and assess their capacity to undertake community driven Development projects;

a. Identify shortcomings.
b. Propose strategies for capacity building.
c. Propose areas for new investments.
d. Propose strategies for participatory approaches in development projects.

xii) Propose an implementation framework for this project.

xiii) Prepare a final Report document for this component and which should include a clear logical framework and detailed budget.

4.2 Literature Reviewed

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4.4 Main Phase Contact List

[by sector or theme]

* Individual participated in CBO & Micro-finance Stakeholder Seminar in Mwanza, 5 August 2006

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	Ally M. Ngendero	Crop specialist – ARI - Ukiriguru
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	Duttu, M	TASAF
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	Juma Gagi	Subject Matter Specialist – crop
	G'wana Sayi	Farmer
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John Busuka	Local NGO member, Muleba
Magreth Lupiga	Local NGO member, Muleba
Fatuma Mabuka	Local NGO member, Muleba
Nhalile Luhemeja	Local NGO member, Muleba
Melesiana Misalaba	Local NGO member, Muleba
Ladislaus Laurent	Local NGO member, Biharamulo
Angelo Nzigiye*	Local NGO member, Biharamulo
Christian Byamungu*	Local NGO member, Biharamulo
Jeremia Malenya	Local NGO member, Biharamulo
Ngwamba Kipuga	Local NGO member, Biharamulo
Hadija Timotheo*	Local NGO member, Biharamulo
Thereza Ng'ofilo	Local NGO member, Biharamulo

Bwashe Misana	Local NGO member, Biharamulo
Emmanuel Lukas	Local NGO member, Biharamulo
Mariam Mashamba	Local NGO member, Biharamulo
Modest Rutasingwa	Member Kagera Comm. Dev. Foundation (KCDF), Bukoba
Divo Rugimbana	Member Kagera Comm. Dev. Foundation (KCDF), Bukoba
Deo Rusaibula	Member Kagera Comm. Dev. Foundation (KCDF), Bukoba
Mr. Gosbert	Member Kagera Comm. Dev. Foundation (KCDF), Bukoba
Yohane Shiligi	Member Kagera Comm. Dev. Foundation (KCDF), Bukoba
Kulwa Shimbewadogo	Member Kagera Comm. Dev. Foundation (KCDF), Bukoba
Reyi Katinde	Member Kagera Comm. Dev. Foundation (KCDF), Bukoba
Fredrick Akilimali*	P.O.Box 10626 Mwanza
Leokadia Mutaganda*	P.O.Box 10626 Misungwi, Hupemef
Ashililya Nyanda*	P.O.Box 10 Misungwi, Bega kwa bega
Rhobi Samwelly*	P.O.Box 89 Biharamulo
Abedi Kashanabo*	P.O.Box 200 Magu
Diana Abeli*	P.O.Box 11892 Magu
Rev.Simon Chemu*	P.O.Box 11892 Magu
Sylvester Kakinda*	P.O.Box 10 Magu, MACOBATE
Aloyce ikeresho	Member Kagera Comm. Dev. Foundation (KCDF), Bukoba

4.5 EIA Legislation

Government Notice 349 published on 4/11/2004
THE ENVIRONMENTAL MANAGEMENT ACT, 2004
(ACT NO. 20 OF 2004)

THE ENVIRONMENT IMPACT ASSESSMENT AND AUDIT REGULATIONS 2005

FIRST SCHEDULE
(Made under Regulation 6 (1))

TYPES OF PROJECTS REQUIRING AND NOT REQUIRING EIA

Type A - Project requiring a mandatory EIA.
Project is likely to have significant adverse environmental impacts and that in-depth study is required to determine the scale, extent and significance of the impacts and to identify appropriate mitigation measures.

Type B - Project requiring Preliminary Environmental Assessment
Project is likely to have some significant adverse environmental impacts but that the magnitude of the impacts are not well-known, a preliminary environmental assessment is required to decide whether the project can proceed without a full environmental impact assessment.

A: LIST OF PROJECTS REQUIRING EIA (MANDATORY LIST)

1. Agriculture
   - (i) Large scale cultivation.
   - (ii) Water resources development projects (dams, water supply, flood control, irrigation, drainage))
   - (iii) Large scale mono-culture (cash and food crops including floriculture)
   - (iv) Biological Pest Control
   - (v) Agricultural projects necessitating the resettlement of communities.
   - (vi) Introduction of new breeds of crops.
   - (vii) Introduction of Genetically Modified Organisms (GMOs)

2. Livestock and Range management
   - (i) Large Scale livestock movement
   - (ii) Introduction of new breeds of livestock including Genetically Modified breeds
   - (iii) Introduction of new or alien foreign species
   - (iv) Intensive livestock rearing areas

3. Forestry
   - (i) Timber logging and processing
   - (ii) Introduction of new tree species and development of forest plantations
   - (iii) Selective removal of single tree species
   - (iv) Biological pest control
   - (v) Afforestation and reforestation for purpose of carbon sequestration
   - (vi) Construction of roads inside forest reserve
   - (vii) Commercial charcoal, firewood and other forest harvest operations
   - (viii) Establishment of commercial logging or conversion of forested land to other land uses within catchments areas

4. Fisheries
   - (i) Medium to large scale fisheries
   - (ii) Artificial fisheries (Aqua-culture for fish, algae, crustaceans shrimps, lobster or crabs).
   - (iii) Introduction of new species in water bodies
   - (iv) Large scale fish farming including prawn farming
   - (v) Industrial fish processing and storage
   - (vi) Introduction of Genetically Modified fish species and other aquatic species

5. Wildlife
   - (i) Introduction of new species
   - (ii) Wildlife catching and trading
   - (iii) Establishment of hunting blocks or areas, especially involving resettlement of communities
   - (iv) Translocation of wildlife
   - (v) New protected areas especially involving resettlement of communities
   - (vi) Wildlife ranching and farming
   - (vii) Zoo and sanctuaries

6. Tourism and Recreational Development
   - (i) Construction of resort facilities or hotels along the shorelines of lakes, river, islands and ocean
   - (ii) Hill top resort or hotel development
   - (iii) Development of tourism or recreational facilities in protected and adjacent areas (national parks, marine parks, forestry reserves etc) on islands and in surrounding waters
   - (iv) Hunting and capturing
   - (v) Camping activities walk ways and trails etc.
   - (vi) Major construction works for sporting purposes

7. Energy
   - (i) Production and distribution of electricity, gas, steam and geo thermal energy
   - (ii) Storage of natural gas
   - (iii) Thermal power development (i.e. coal, nuclear)

(iv) Hydro-electric power
(v) Development of other large scale renewable and non renewable sources of energy

8. Petroleum industry.
(i) Oil and gas fields exploration and development
(ii) Construction of offshore and onshore pipelines
(iii) Construction of oil and gas separation, processing, handling and storage facilities.
(iv) Construction of oil refineries
(v) Construction and/or expansion of product depots for the storage of petrol, gas, diesel, tar and other products within commercial, industrial or residential areas.
(vi) Transportation of petroleum products

9 Transport and infrastructure
(i) Construction, expansion or rehabilitation of new trunk roads
(ii) Construction, expansion or rehabilitation of airports and airstrips and their ancillary facilities
(iii) Construction of new, or expansion to existing railway lines
(iv) Construction of new, or expansion to existing shipyards or harbour facilities
(v) Installation and expansion of communication towers

10. Food and beverage industries
(i) Manufacture of vegetable and animal oils and fats
(ii) Oil refinery and ginneries
(iii) Manufacture of dairy products
(iv) Brewing distilling and malting
(v) Fish meal factories
(vi) Slaughter - houses
(vii) Soft drinks
(viii) Tobacco processing
(ix) Caned fruits, and sources
(x) Sugar factories
(xi) Other agro-processing industries

11. Textile industry
(i) Cotton and Synthetic fibres
(ii) Dye for cloth
(iii) Ginneries

12. Leather Industry
(i) Tanning
(ii) Tanneries
(iii) Dressing factories
(iv) Other cloth factories

13. Wood, Pulp and Paper Industries
(i) Large scale manufacture of veneer and plywood
(ii) Large scale manufacture of fibre board and of particle - board
(iii) Large scale manufacture of Pulp, Paper, sand-board cellulose – mills

14. Building and Civil Engineering Industries
(i) Industrial and housing Estate
(ii) Major urban projects (multi-storey building, motor terminals, markets etc)
(iii) Construction and expansion/upgrading of roads, harbours, ship yards, fishing harbours, air fields and ports, railways and pipelines
(iv) Developments on beach fronts

15. Chemical industries
(i) Manufacture, transportation, use and storage and disposal of pesticide or other hazardous and or toxic chemicals
(ii) Manufacture of pharmaceutical products

(iii) Storage facilities for petroleum, petrochemical and other chemical products (i.e. filling stations)
(iv) Production of paints, vanishes, etc
(v) Soap and detergent plants
(vi) Manufacture of fertilizers

16. Extractive industry
(i) Extraction of petroleum
(ii) Extraction and purification of natural gas
(iii) Other deep drilling - bore-holes and wells
(iv) Mining

17. Non-metallic industries (Products)
(i) Manufacture of cement, asbestos, glass, glass-fibre, glass-wool and rubber etc
(ii) Manufacture of plastic materials
(iii) Lime manufacturing, tiles, ceramics

18. Metal and Engineering industries.
(i) Manufacture and assembly of motorized and non –motorized transport facilities
(ii) Body - building
(iii) Boiler - making and manufacture of reservoirs, tanks and other sheet containers
(iv) Foundry and Forging
(v) Manufacture of non - ferrous products
(vi) Manufacture of iron and steel
(vii) Electroplating

19. Electrical and electronic industries
(i) Battery manufacturing
(ii) Electronic equipment manufacturing and assembly

20. Waste treatment and disposal

(a) Toxic and Hazardous waste
(i) Construction of Incineration plants
(ii) Construction of recovery plant (off-site)
(iii) Construction of waste water treatment plant (off-site)
(iv) Construction of secure land fills facility
(v) Construction of storage facility (off - site)

(b) Municipal Solid Waste
(i) Construction of incineration plant
(ii) Construction of composting plant
(iii) Construction of recovery/re-cycling plant
(iv) Construction of Municipal Solid Waste landfill facility

(c) Municipal Sewage
(i) Construction of waste water treatment plant
(ii) Construction of marine out fall
(iii) Night soil collection, transportation and treatment
(iv) Construction of sewage system

21. Water Supply
(i) Canalisation of water courses
(ii) Diversion of normal flow of water
(iii) Water transfers scheme
(iv) Abstraction or utilisation of ground and surface water for bulk supply
(v) Water treatment plants

22. Land planning and development, land reclamation, housing and human settlements
(i) Resettlement/relocation of people and animals e.g. establishment of refugee camps
(ii) Development or expansion of industrial estates
(iii) Establishment of estates for residential/commercial purposes
(iv) Major urban projects(multi-storey building, motor terminals, markets etc)
(v) Construction or expansion of hospitals with large bed capacity

(vi) Land reclamation including land under water bodies
(vii) Development of residential and commercial estates on ecologically sensitive areas including beach fronts
(viii) Dredging of bars, greyones, dykes and estuaries

B: LIST OF SMALL-SCALE ACTIVITIES AND ENTERPRISES THAT REQUIRE REGISTRATION (MAY OR MAY NOT REQUIRE EIA)

(i) Fish culture
(ii) Small animal husbandry and urban livestock keeping
(iii) Horticulture and floriculture
(iv) Wildlife catching and trading
(v) Charcoal production
(vi) Bark for tanning processing
(vii) Brewing and distilleries
(viii) Bird catching and trading
(ix) Hunting
(x) Wildlife ranching
(xi) Zoo and sanctuaries
(xii) Tie and dye making
(xiii) Salt pans
(xiv) Urban agriculture.
(xv) Hospitals and dispensaries, Schools, Community centre and Social halls, play grounds
(xvi) Market places (livestock and commodities).
(xvii) Blacksmiths
(xviii) Garages
(xix) Tile manufacturing
(xx) Kaolin manufacturing
(xxi) Livestock stock routes
(xxii) Tobacco curing
(xxiii) Sugar refineries
(xxiv) Tanneries
(xxv) Pulp plant
(xxvi) Oil refineries and ginneries
(xxvii) Artisanal and small scale mining
(xxviii) Rural road

4.6 CBO Inventory

	Name of CBO/NGO - Address/Location/ Identity	Main activity
	Magu District-Mwanza Region	
1	Busega Development Fund (BUDEF) - Bukabile/Nyashimo, Kabita	Credit support to members
2	Bega kwa Bega – Kisesa, Magu	Group agricultural activities
3	Rural Initiative & Relief Agency (RIRA) – Kabita	Provision of relief services
4	Busega Children & Development Services - Lamadi	Development projects for children
5	Community Development Agency & Relief (CORDA) - Nyalikungu	Support community projects
6	Pia mbegu ya maendeleo Inua hali ya Waathirika (PANUA) - Ihushi/Bujashi	Small loans to plwaids
7	Mt&ao wa Maendeleo ya Vijana Magu (MAYODEN) - Nyalikungu	Networking for youth & individuals
8	Concern for the Elderly Tanzania (COEL) - Kisesa	Assistance to elderly persons
9	Baraza la Ushauri na Maendeleo ya Vijana Magu (YADEC) - Nyalikungu	Advisory services for youth groups
10	Chama cha watu wenye Ulemavu (CHAWATA) - Nyalikungu	Assist disabled members
11	Tanzania Youth & Elderly Employment Dev. Org. (TAYEEDO) - Nyalikungu	Assist youth & elderly start self-employment

12	Nassa Brotherhood Society (NABROHO) - Mwanangi/Nyasho	Assist with financial & social support
13	Umoja wa Vikundi vya Vijana vya Uzalishaji mali na Uelimishaji rika Magu	Networking for youth business & individuals
14	Magu Agricultural & Livestock Dev. Org. (MALDO) - Itumbili	Assist small farmers improve agri. yield
15	Anglican Youth Care Programme – Itumbili	Technical & moral support to youth dev. groups
16	Huruma Peace,Mercy Foundation (HUPEMEF) - Nyalikungu	Advisory services to all social groups
17	Calvary Assemblies of God Gropup (CAG) - Nyalikungu	Assist investments to sustain religious values.
18	Nassa Development Trust (NADET) - Bukabile/Nyashimo	Support community development projects
19	Lamadi Agri., Env. Cons. Water & Sanitation (LAECOWASA) - Lamadi	Agricultural activities
20	Bujora Cultural Centre (BCC) - Kisesa	Eco- tourism
21	Kikundi cha kuhifadhi Mazingira (RAFE) - Nyanguge	Environmental concervation
22	Beach Management Unit (BMU) - Kayenze/Lutale	Beach management
23	Upendo Community Based Organization (UCBO) - Nyalikungu	Small business activities
24	Kikundi cha Bustani Langi (BBL) - Langi/Lutale	Vegetable gardening project
25	Input Marketing Association - Matale	Small business enterprises
26	Msichoke na USUSI - Bugabu/Mahangara	ha craft activities
27	Uhamasishaji wa Maendeleo ya Jamii - Nyalikungu	Development projects
28	Magu Tumaini Group (MATUGRO) - Nyalikungu	Small business enterprises
29	Magu Peasants Association (MPA) - Nyalikungu	Farming projects
30	Maendeleo ya Vijana Magu, Shirika la Jamii (MAVIMA) - Kisesa	Small business enterprises
31	LOWIMA	Small business enterprises
32	Kikundi cha akina mama Furahisha (KCMF) - Ilungu/Nyigogo	Small business enterprises
33	Kilimo Vijana-Busekwa - Busekwa/Ihushi	Farming projects
34	Mkombozi Grouop (MG) - Nyalikungu	Credit services
35	Umoja wa kusaidiana Magu (UWAKU)	saVings & credit
36	Care International - whole district	Credit services
37	KATAYOMA	Skills training
38	CHAWATA	Skills training
	Muleba District - Kagera Region	
39	Biirabo Rural Transformation Scheme Trust Fund (BRTSTC) - P.O.Box 208	Small loans to cbos & protection of catchments
40	Kagera Development Trust Fund (KADETFU)	Offering small loans to women & youth
41	West Victoria Dev. & Health Assoc. (WEVIDHA) - P.O.Box 100	Sustainable enviro. & voc. training for youth
42	World Vision Tanzania (WVT) – P.O.Box 139 Bukoba	Supports water & agricultural projects
43	Muleba Agriculture & Livestock Industries (MALI) - P.O.Box 4	Promotion of good farming & preserve. of fruits
44	Women Savings & Credit Association (WOSCA) - P.O.Box 158	Provides credit services to comm.. groups
45	Victoria Empowerment Programme (VEP) - P.O.Box 46	Empowerment to women on dev. issues
46	Tumaini Letu - P.O.Box 158	Credit services to women, especially widows
47	Tanzania Red Cross - P.O.Box 200	Provision of first aid services
48	Swiss Aid Tanzania	Provision of credit services to comm. groups
49	Ruhanga Fishing & Envir. Rehabilitation (RUFER) - P.O.Box 1	Environment protection projects
50	Kanisa Katholiki na Ukimwi (KAKAU) - P.O.Box 34	Support for hiv/aids persons
51	Huduma ya Watoto (HUYAWA) - P.O.Box 98	Support to orphans
52	MKAKAT - P.O.Box 93	Promotion of innovative agriculture

53 Buchwaihembe Savings & Credit Soc. Ltd. (BSCS) - P.O.Box 157 Rubya	Savings & credit servises
54 Environmental Conservation of Lake Victoria	Environmental concervation activities
55 Buyaga & Ikondo Association (BUYEIKO)	Savings & credit services
56 ACORD	Environmental conservation activities
57 Village Development Society (VIDESO)	Supports village development projects
58 African Consolidated Youth & Women Assoc. (ACYWA) - P.O.Box 190	Enviro. cons. projects for women & youth
59 FINCA - P.O.Box 22	Provision of small loans to women
60 Bisore, Kangantebe, Mayondwe, Nyakashenye Dev. Assoc. (BIKAMANYA)	Provision of vocational training to youth
61 Gemahyo Youth Foundation (GYF) - P.O.Box 248	Small enterprises for youth
62 Mazingira Club - P.O.Box 2	Protection of water catchment areas
63 TAWODA	Support for women development projects
64 Rubya Development Association (RUDEA)	Development projects
65 Muleba Polytechnic Centre - P.O.Box 100	Polytechnic project
66 Ihangiro Farmers Development Association (IFADEA)	Support for agricultural & enviro. projects
67 Kagera Islamic Development Organization (KIDO)	Supports community development projects
68 Socio-Economic Promotion & Consultancy - P.O.Box 115	Promotes & advises comm. dev. projects
69 Jisaidie na kusaidia Jamii	Small business enterprises
70 Boresha Maisha	Small business enterprises
Nyamagana District – Mwanza Region	
71 Wauza samaki mwaloni	Buying & selling fish
72 Tupendane matunda Mwaloni - MZR 647/1990	Buying & selling fish
73 Uwasa co-operative Society - MZR 866/1995	General services to community
74 Ibaa Fish Dealers co-Operative Society - MZR 85/1997	Buying & selling fish
75 Wafanyabiashara soko J - MZR 48/1990	Buying & selling fish
76 Mwanza vegetable co-operative Society - MZR 85/1997	Supply of vegetables
77 Matunda na Nafaka pasiansi - MZR 5228/1986	Production & selling of fruits
78 Biashara ndogo mlango mmoja - MZR 42/1989	Small business enterprises
79 Wafanyabiashara soko F -MZR 891/1998	Small business enterprises
80 Mwanza co.CABS - MZR 879/1997	Car hire services
81 Ushirika Nafaka soko kuu - MZR 852/1997	Transport services
82 Wafanyabiashara soko kuu C - MZR 870/1996	General buying & selling
83 Biashara soko G - MZR 877/1997	General buying & selling
84 Wafanyabiashara soko kuu B -MZR 5443/1987	Small industries
85 Wafanyabiashara soko A - MZR 878/1997	Consumer services
86 Mungu hana choyo - MZR 882/1997	Consumer services
87 Ujamaa Pamba Co-operative - MZR 15/1976	General services
88 Imara Co-operative -MZR 5216/1986	Consumer services
89 Wahudumu b&ari kaskazini - MZR 632/1988	General services
90 Wauza samaki Igoma Mashariki - MZR 886/1997	Buying & selling fish
91 Ushirika akina mama mwanza mjini - MZR 394/1987	Buying & selling fish
92 Ushirika akina Mama Soko Kuu - MZR 1/1974	Consumer services
93 Chakula ni Uhai - MZR 639/1989	Consumer services

94	Mkombozi Fish Supply Co-operative - MZR 5112/1985	Fish supply
95	Ushirika wa uchumi Igogo - MZR 865/1995	Small industries
96	Mwanza Diary - MZR 14/1976	Selling milk
97	New Miembeni Diary - MZR 651/1981	Selling milk
98	Mwanza Young Fish Supply - MZR 54/1981	Buying & selling fish
99	Mwanza Fish & Drying - MZR 859/1994	Fish drying
100	Mwanza civil servant Savings & Credit - MZR 17/19987	Provision of loans
102	Nyanza savings & Credit - MZR 1716/1966	Provision of loans
103	BCS Savings & Credit - MZR 1444/1964	Savings & credit
104	RTC savings & Credit Co-operative Society - MZR 867/1995	Savings & credit
105	Pel Savings & Credit Co-operative Society - MZR 396/1987	Savings & credit
106	Neema Savings & Credit Co-operative Society - MZR 856/1993	Savings & credit
107	Muwakapa Savings & Credit Co-operative Society - MZR 893/1998	Savings & credit
108	Fumashili AGR.Marketing Co.operative - MZR 895/1998	Savings & credit
109	Isangijo AGR.Marketing Co.operative - MZR 714/1993	Buying & selling of agricultural products
110	Sakanya AGR.Marketing Co.operative - MZR 712/1993	Buying & selling of agricultural products
111	Ipaikilo AGR.Marketing Co.operative - MZR 716/993	Buying & selling of agricultural products
112	Nyaigombe AGR.Marketing Co.Operative - MZR 713/1993	Buying & selling of agricultural products
113	Bulwa AGR.Marketing Co.operative - MZR 715/1993	Buying & selling of agricultural products
114	Luchemko AGR.Marketing Co.operative - MZR 711/1993	Buying & selling of agricultural products
115	Lake multipurpose - MZR 710/1993	Buying & selling of agricultural products
116	Mwanza Fisheries Proffessional - MZR 902/1999	Multiple fish activities
117	Mwanza South Porters - MZR 876/1997	Fishing
118	Ushirika Matunda Kilumba MZR 892/1998	Supply of fruits
119	Mwanza African Fish Supply - MZR 5214/1986	Fish suppliers
120	Wadoki savings & Credit co-operative Society ltd - Mwanza	Savings & credit
121	Fahari Savings & Credit Co-operative Society - MZR 919/2001	Savings & credit
122	Mwanza savings & Credit Co-operative Society - MZR 920/2001	Savings & credit
123	Vijana wanunuzi na wauza samaki Mwaloni co.op.Society - MZR 925/2001	Savings & credit
124	Kuleana savings & Credit Co.operative - P.179	Savings & credit
125	Ushirika wa Mama Lishe - MZR 914/2001	Savings & credit
126	Ushirika wa wakulima Nyamadoke - MZR 989/2003	Savings & credit
127	BMC SACCOS - MZR 999/2004	Savings & credit
128	Umoja SACCOS - MZR 1000/2005	Savings & credit
129	FSA Igogo - MZR 1124/2005	Savings & credit
130	FSA Mkuyuni SACCOS - MZR 1125/2005	Savings & credit
131	FSA Mkolani SACCOS - MZR 1126/2005	Savings & credit
132	FSA Buhongwa SACCOS - MZR 1127/2005	Savings & credit
133	FSA Sangabuye SACCOS - MZR 1128/2005	Savings & credit

4.7 CBO Group meetings: main comments

Magu 4th July 2006 - Meeting with KATAYOMA Development Group Members

The KATAYOMA group members expressed their desire to share experience and learn more from other development groups on areas of project management. The group has the aim of helping out of school children with investment skills. They have managed to train some 24 young people in the fields of basket making, tailoring and management of small projects. The major challenge for them is lack of resources which could make them provide the same service to a much bigger group. They don't have reliable sources of fund and have not yet tried to secure funds from any financing institution. All members have not attended any course of project management and yet they train others on same issues. Their instructions are based on their experience and are protected by the community through their good reputation. They suggest the government to put some structure to assist small community based organizations. Financing institutions should have some regular sensitization programs to enable poor and excluded people to have a chance of knowing about the availability and conditions of obtaining loans.

Magu 4th July 2006 - Meeting with District social welfare officials

Magu social welfare district officials were impressed by LVEMP efforts to involve different stakeholders in planning for the second phase of its activities. It is clear from their district that small community based organizations are not aware of the current opportunities in natural recourses investment. The district is so vast such that officials cannot manage supervising all groups in an organised way. The district has no data base for all CBO and NGOs operating in the district. This is taken as a challenge and plans are being made to have all CBOs and NGOs registered. The existing natural resources investment opportunities include Eco-tourism in the traditional sites and expansion of agricultural activities which include aquaculture. The major constraint facing them is lack of adequate knowledge on how to support CBO/NGOs

Muleba 6th July 2006 - Meeting with members of local CBOs and NGOs

The mixed members from different CBOs and NGOs had different opinions on the topics of focus for LVEMP-2. There was great concern about lack of proper communication between local NGOs/CBOs and the government as well as other powerful stake holders. Communication and information sharing has so much been limited to big and well known NGOs.This has caused small NGOs to remain incapacitated and under developed. They advised LVEMP-2 to consider involving small groups in establishment of natural resources investment projects. Small community groups in Muleba district have local networks which could be used by LVEMP-2 to enhance capacity building on investment techniques. They have proposed LVEMP to consider financing two industries located in Muleba; namely 1) MALI JUICE and 2) MILK PROCESSING. These two industries if assisted could make a big impact in the agriculture sector in Muleba. The Mali Juice industry could easily absolve all fruits harvested around that area and contribute to the employment of more people. Muleba is rich in cows and goat.The milk processing industry could solve the problem of farmers lacking market for their milk and at the same time encourage more farmers to engage in this activity.

Biharamulo 6th July 2006 - Meeting with CBO leaders

The focus group discussion produced several suggestions of potential areas of investment and intervention in Natural Resources. They suggested that LVEMP-2 should consider providing farming tools such as tractors to community groups who will then be custodians on behalf of all farmers in different wards. They suggest each ward to have at least one tractor. This will immediately change the lives of agriculturalists along the LVB.The formation of SACCOS in wards will help farmers to improve their living standards due to availability of small soft loans.

Bukoba 7th July 2006 - Meeting with members of Kagera Community Development Foundation (KCDF)
Recommends that LVEMP-2 investments in Kagera region should closely consider promoting the Bunena Beach Convention Centre which is church affiliated, to Bukoba R.C Diocese. It is situated along the serene shores of lake Victoria water front, and is about 2kms from Bukoba town centre. The centre is a tourist attraction site with a panoramic view of the lake. From this centre one overlooks the spectacular view of Bukoba Harbour, Musira Island, and Bukoba Air strip. The centre is located on the warm hospitable shore of lake Victoria. The centre is exclusive and suitable for all types of customers eg, tourists, various conventions, Bussiness, meetings, Conferences, Wedding celebrations, and is a potential for enjoyments, relaxing, and for swimming. This is a known Christian pilgrimage site with appellations of the Virgin Mary the mother of Jesus. The major problem is lack of funds to make it more attractive to tourists. This investment can contribute to poverty reduction and economic development of our people and our country.