



AU-IBAR

BT  
ILRI  
INTERNATIONAL  
LIVESTOCK RESEARCH  
INSTITUTE

## Farming in Tsetse Controlled Areas

## FITCA



## *Environmental Monitoring and Management Component*

# EMMC

Project Number : 7.ACP.RP.R. 578

## Stakeholders and organisations relevant for environmental monitoring and management in FITCA areas of Kenya.

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Resources  
Institute**

**FITCA EMMC Report Number S2**

**AFRICAN UNION –INTER AFRICA BUREAU OF  
ANIMAL RESOURCES (AU-IBAR)**

**AND**

**INTERNATIONAL LIVESTOCK RESEARCH  
INSTITUTE  
(ILRI)**

**STAKEHOLDER ANALYSIS REPORT**

**ON**

**FARMING IN TSETSE CONTROLLED  
AREAS-ENVIRONMENTAL MONITORING  
AND MANAGEMENT COMPONENT**

**(FITCA-EMMC)**

**IN KENYA**

**EU FUNDED PROJECT (Financing Agreement N° 5682/REG)**



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## Acronyms

ABLH	Association for Better Land Husbandry
ADEO	African Development and Emergency Organization
ADT	Akukuranut Development Trust
AIRC	Agricultural Information Resource Centre
ATIRI	Agricultural Technology and Information Response Initiative
AU	African Union
BAT	British American Tobacco
CBNP	Community Based Nutrition Programme
CBO	Community Based Organization
CDA	Community Development Assistants
CESARD	Center for Sustainable Agriculture Center for research and development
CHAART	Centre for Health Application of Aerospace Related Technologies
CIDA	Canadian International Development Agency
CIG	Common Interest Groups
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
COSOFAD	Consortium for Scaling Options for increasing agro-production in Western Kenya
CREADIS	Community Research in Environment and Development
DALEO	District Agriculture and Livestock Extension officers
DANIDA	Danish International Development Agencies
DAO	District Agricultural Officer
DDC	District Development Committee
DDO	District Development Officer
DFID	Department for International Development
DLPO	District Livestock Production Officer
DO	District Officer
DRSRS	Department of Resource Survey and Remote Sensing
DSDO	District Social Development Officer
DVO	District Veterinary Officer
EAEN	East Africa Environmental Network
EMMC	Environmental Management and Monitoring Component
FAN	Forest Action Network
FAO	Food and Agriculture Organizations
FEWS NET	Famine Early Warning Systems Network
FITCA	Farming in Tsetse Controlled Areas
GDS	Germany Development Services
GOK	Government of Kenya



IBAR	Inter Africa Bureau of Animal Resources
ICIPE	International Center for Insect Physiology and Ecology
ICIPE-EHD	International Centre for Insect Physiology and Ecology- Environmental Health Division
ICSF	International Christian Support Fund
IGAD	Intergovernmental Authority for Development
IIRR	International Institute of Rural Reconstruction
ILRI	International Livestock Research Institute
IUCN	International Union for Conservation of Nature
KACE	Kenya Agricultural Commodity Exchange
KARI-TRC	Kenya Agricultural Research Institute-Trypanosomosis Research Center
KEFRI	Kenya Forestry Research Institute
KIDEP	Kimili Integrated Development Programme
KORDP	Kenya Orphans Rural Development Programs
LUCID	Land Use and Change Analysis.
LEVMP	Lake Victoria Environmental Management Project
MOA	Ministry of Agriculture
MOL	Ministry of Livestock and fisheries
MOPD	Ministry of Planning and Development
MOW	Ministry of Water
MSF	Medical Service without Frontier
NEMA	National Environmental Management Authority
NGO	Non Governmental Organization
NRI	National Resources Institute
ODI	Overseas Development Initiative of Oxford University
PAAT	Programmes Against African Trypanosomiasis
PK	Plan Kenya
PLEC	People, Land Management and Environmental Change
PRA	Participatory Rural Appraisal
RCMRD	Regional Center for Mapping Resources for Development
REFSO	Rural Energy and Food Security Organization
RTDC	Rural Technology Development Center
SACRED AFRICA	Sustainable Agriculture Center for Research and Development
SEMG	Scientific Environmental Monitoring Group
WAC (ICRAF)	World Agro forestry Centre

## **OVERVIEW: FITCA Project**

The regional project FITCA (Farming in Tsetse Controlled Areas) has a general objective to integrate tsetse control activities into the farming practices of rural communities such that the problem of trypanosomosis can be contained to the levels that are not harmful to both human and the livestock and environmentally gentle and integrated into the dynamics of rural development and are progressively handled by the farmers themselves. The project is hosted by the Inter-African Bureau for Animal Resources of the African Union (AU-IBAR) and covers areas with small scale farming in Uganda, Kenya, Tanzania and Ethiopia.

EMMC (Environmental Monitoring and Management Component) is the environmental component of FITCA. It is implemented by ILRI in collaboration with CIRAD (as member of SEMG, Scientific Environmental Monitoring Group). This regional component has been charged with the responsibility of identifying of monitoring indicators and methodologies, as well as the development of an environmental awareness among the stakeholders. It contributes to propositions of good practices and activities mitigating the impacts and rehabilitating the threatened resources likely to result directly or indirectly of tsetse control and rural development.

The FITCA EMMC project was written by Dr. Robin Reid of the International Livestock Research Institute (ILRI) a future Harvest Centre supported by CGIAR (Consultative Group for International Agricultural Research).

The present report has been prepared under the responsibility of the leading group of EMMC:

- Dr Bernard Toutain, agronomist, coordinator
- Dr Joseph Maitima, ecologist



## **STAKEHOLDER ANALYSIS FOR FITCA-EMMC PROJECT IN KENYA**

*Farming in Tsetse Controlled Areas (FITCA) – Environmental Monitoring and Management Component (EMMC)*

### **EXECUTIVE SUMMARY**

Farming In Tsetse Controlled Areas (FITCA) is a regional programme covering several countries in Eastern Africa (Kenya, Ethiopia, Uganda, Tanzania) and it is coordinated by a Regional Coordination Unit (RCU) located in the African Union- Inter Africa Bureau of Animal Resources (AU-IBAR). FITCA programme has been in operation for less than three years and is funded by the EU under the Financing Agreement N° 5682/REG. FITCA Kenya covers five districts (Busia, Siaya, Bondo, Teso and Bungoma). The overall objective of FITCA is "The livelihood of the rural people in the FITCA area improved". FITCA interventions include: vector control, surveillance and treatment; and rural development activities. These activities are aimed at preventing tsetse re-invasion while at the same time increasing agricultural production. FITCA- Environmental Monitoring and Management Component (EMMC) overall objective is: "Increased household incomes based on agricultural systems using sustainable management of the natural resources". The realization of the overall objective will be through two specific objectives of the FITCA EMMC. The first specific objective will be the improvement of environmental awareness among all stakeholders and secondly, the capacity building at all levels of FITCA implementation strategy to ensure sustainability of livelihoods dependent on natural resources management.

The terms of reference for this study was to identify key stakeholders under first specific objective stated above and provide a profile for each of these stakeholders in terms of their relevance to FITCA EMMC strategy for sustainable development. Information for stakeholders analysis was collected from field surveys in FITCA operational zone, focused group discussions with participating individuals, Community based organizations, NGOs, Government ministries, private sector, national, regional and international organizations.

Among the international and regional organizations/institutions, AU-IBAR is considered to be the most suitable strategic partner for institutionalizing FITCA-EMMC initiatives. AU IBAR has both the technical competence to oversee the regional dimensions of FITCA initiatives as well as the political clout to effect policy changes. AU IBAR coordinates several relevant programmes like Pan Africa Control of Epizootic (PACE), Programme against African Trypanosomosis (PAAT). AU- IBAR mandate and its strategic position in Africa makes an ideal organization that can leverage support for FITCA EMMC at national, regional and international levels. Strategic partnerships with ILRI, FAO, FEWS-NET and IGAD will only strengthen the achievement of FITCA EMMC overall objective. ILRI a key strategic partner has already been contracted by AU- IBAR to implement FITCA EMMC during the current phase of project.

At national level, active participation of some government ministries and institutions is critical for realization of FITCA EMMC objectives and for sustainability of their impacts. The ministry of

Livestock Development and Fisheries has two lead Departments: the Department of Veterinary Service and the Department of livestock Production. FITCA project has already identified these departments but greater involvement is critical for the success of FITCA EMMC. Other critical ministries include the ministry of Agriculture and Rural Development, Ministry of Environment and Natural Resources and Wildlife. Important national institutions include KARI-TRC- KETRI, Agricultural information Resource Centre (AIRC) among others. ICIPE is a key institution that can play a major role in monitoring and management of tsetse controlled farming areas. NGOs and CBOs and Government departments operating at field levels are key actors for capacity building of local communities and for sustainability of FITCA EMMC initiatives.

The study recommends that FITCA EMMC strengthens those partners and key stakeholders who have indicated interest in order to strengthen collaboration and who are strategically located to takeover FITCA EMMC initiatives. The more details on the stakeholders are given below and in the table and annex at the end of the report.



## Acknowledgement

I wish to thank Dr. Bernard Toutain, FITCA-EMMC Project Co-ordinator for facilitating all logistics of carrying out this study within a very limited time available. Dr. Joseph Maitima of ILRI also assisted not only in providing useful ideas on the status of FITCA EMMC but also in making the necessary arrangement for transport. I wish to thank ILRI for providing the transport and a driver for fieldwork. I would also like to recognise the time and ideas from Dr. Burkhard Bauer, the project manager FITCA for allowing us to use his field staff and facilities to complete the study in the short time that was available.

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## **1.0 INTRODUCTION**

### **1.1 Programme Background**

FITCA Kenya Programme is a part of a regional programme that covers countries in Eastern Africa (Kenya, Uganda, Tanzania and Ethiopia). EMMC is the environmental monitoring and management component of FITCA. The objective of FITCA EMMC is to monitor and manage the environment in tsetse controlled farming systems to ensure sustainable animal and human Trypanosomosis control.

The intervention strategy of FITCA includes: vector control, surveillance and treatment; and rural development activities aimed at preventing tsetse re-invasion while at the same time increasing agricultural production. EMMC is expected to monitor and identify mitigation measures to sustain tsetse control and sustainable livelihoods of rural population.

The FITCA programme is co-ordinated by the Regional Technical Co-ordination Unit based in AU-IBAR, Nairobi Kenya the Regional Technical Co-ordination Unit facilitate the implementation of national FITCA programmes. To ensure sustainability of FITCA EMMC impacts after programme termination in 2004, the programme is seeking relevant stakeholders who will have the interest and the capacity to undertake the EMMC programme initiatives in creating environmental awareness and empowerment of stakeholders especially at district and grassroots levels.

### **1.2 Project Location**

The Kenya FITCA programme area covers five administrative districts that include Busia, Teso, Bungoma in Western province and Bondo and Siaya in Nyanza province.

### **1.3 Key Project Features**

The environmental monitoring and impact assessment component (FITCA-EMMC) is part of the regional FITCA program, which is funded by the EU under the Financing Agreement N° 5682/REG extended until 31/12/2003.

ILRI is contracted by AU-IBAR as consultant to provide technical assistance under the supervision of the Regional Tsetse Co-ordination Unit. The programme sponsor is the head of Delegation of the European Commission in Kenya. The Technical Assistant contract was signed on 28<sup>th</sup> March 2001 for two-year period but the period has been extended to December 31<sup>st</sup> 2003. The FITCA EMMC project is expected to terminate by the end of 2004 and concerns of the sustainability of positive project impacts has be an issue of great concern.

Concerns on project sustainability after the termination date in 2004 were raised by the Mid Term Evaluation report of July 2003. FITCA EMMC is the process of redefining its orientation with respect to the sustainability concerns by adopting the following project strategies:



- Enhancement of a capacity of environmental advocacy and analysis both at regional (AU/IBAR) and country level. Development of awareness will address not only the stakeholders but also the national and regional institution, to develop their capacity of environmental monitoring and analysis.
- Mainstreaming of EMMC initiatives into the AU-IBAR/RTCU and into national FITCA projects to create a capacity to be used not only in FITCA but also to other AU-IBAR-managed regional program.
- Strategic linkage of EMMC initiatives with institutions and organizations i.e. ILRI to continue to providing the services focusing on capacity building.
- Harmonization and improvement of communication of FITCA EMMC with national FITCA initiatives
- Identify relevant stakeholders through collaboration with the national FITCA projects, ILRI scientists and IBAR staff.
- Information exchange and training of trainers on environmental issues at national level- through workshops that focus on environmental issues and methodologies of community approaches- design the training for rural communities and partners; identify the training needs of some of the stakeholders
- Collection of information from communities about the perception on environmental issues- what is the common thinking of farmers on environmental issues and its relation with natural resource use.
- Workshops for information exchange and training at community level facilitated by stakeholders.

This study focuses on one of the above strategies, namely- identification of key stakeholders for FITCA EMMC who are likely to take over the responsibility of monitoring and management of environmental changes in Tsetse controlled farming areas for the purpose of promoting sustainable development of these areas.

#### **1.4 Scope and Focus of stakeholder analysis**

A stakeholder in the context of FITCA EMMC is any organization or institution; whether private or public, local or national, regional or international that shares common interest in the EMMC overall objective and activities. The primary stakeholders are those that are already involved or have participated in FITCA activities at local, national and regional levels. The stated overall objective of FITCA is *"The livelihood of the rural people in the FITCA area improved"* while FITCA EMMC overall objective is: *"Increased household incomes based on agricultural systems using sustainable management of the natural resources"*. EMMC mandate therefore embraces any action that affects the agricultural production system. The purpose of EMMC is "Increased awareness for environmental issues and capacity to assure sustainable management of natural resources"

The scope of work of FITCA EMMC is in two areas: awareness creation among stakeholders and capacity building of stakeholders in environmental monitoring and management. The activities of FITCA EMMC that will lead to the realisation of rural livelihoods based on sustainable management to natural resources are listed below:

1. Improvement of environmental awareness among all stakeholders in Tsetse and Tsetse controlled areas through the following activities
  - a) To assess the changes of land use and natural resources
  - b) To monitor environmental changes in the long term (by interpretation of land use and land cover based on remotely-sensed imageries)
  - c) To assess changes on biodiversity and other natural resources
  - d) To analyse environmental impacts of rural development and FITCA activities in the project areas
2. Enhancement of capacity building at all levels to assure sustainable management of natural resources

The activities that will lead to the realisation of capacity enhancement and which constitute the work plan for FITCA EMMC are listed below:

- a) Assess the changes of land use and natural resources
- b) Monitor environmental changes in long term (by interpretation of land use and land cover based on remotely-sensed imageries)
- c) Assess changes on biodiversity and other natural resources
- d) Analyse environmental impacts of rural development and FITCA activities in the project areas
- e) Complete the identification of relevant stakeholders
- f) Training of trainers in environmental issues
- g) Collect information from communities about the perception of environmental issues
- h) Training of community members in environmental issues
- i) Develop and disseminate public awareness materials, create an information exchange network
- j) Develop environmental analysis capacity at national and regional levels
- k) Train field staff on safe use and disposal of insecticides
- l) Produce appropriate environmental assessment guidelines
- m) Identify appropriate ecological indicators to monitor changes in natural resources
- n) Develop methodologies for farmers, rural communities and local organizations about how to manage environmental issues



The scope of FITCA EMMC mandate as outlined above indicates that there are several stakeholders with diverse interests and who need to be involved to ensure sustainability of FITCA vision, mission and initiatives towards long-term sustainable development of tsetse infested and tsetse controlled farming areas.

### ***Terms of Reference (TOR)***

The terms of reference for the short-term consultancy is to assist FITCA EMMC in identifying key stakeholders who are strategically positioned to do the following tasks

- To be involved by EMMC in creating environmental awareness
- To have the capacity for environmental advocacy at regional and at national level.
- Mandated with the tsetse control and management of environment
- The stakeholders' analysis also to include the details on the mandates, activities and possible reasons for establishing linkages with EMMC.

## **1.5 Methodology**

Information on stakeholders' analysis was collected from the following sources:

- a) FITCA project staff, FITCA EMMC ILRI staff and AU IBAR.
- b) Regional and international organizations dealing on livestock, agriculture and environment and other related fields of interests.
- c) National, district and local public institutions NGOs and private sector organizations operating in FITCA project area and which are relevant to FITCA EMMC mandate.

Information was collected from literature, web pages, visits and interviewing of focal people. FITCA and EMMC, AU-BAR, ILRI and Government of Kenya staff were interviewed. Information at national and international level was collected between 2<sup>nd</sup> and 6<sup>th</sup> December 2003

A team of data collectors left for the five FITCA districts namely Busia, Bondo, Siaya, Teso and Bungoma on a five days mission from 7<sup>th</sup> to 12<sup>th</sup> December 2003. They collected data through strategic interviews on the involvement of local, national and regional NGOs on farming and related activities, community groups that are active on agriculture and social-economic activities.

The assessment of potential partnership/collaboration with stakeholders covered the following aspects:

1. Strategic interest for EMMC to share its objectives, methodologies and results with the stakeholder.
2. Potential establishment of partnership
3. Level of knowledge of the stakeholder on FITCA and EMMC and therefore the possibility of establishing contacts as soon as possible.
4. Willingness of the stakeholder to support either the monitoring activities or in activities related to natural resource management

## **2.0 FITCA EMMC STAKEHOLDER ANALYSIS**

Stakeholder analysis is done at three levels, namely at international and regional level, national level and at district and local level. Each stakeholder is either in a government/public sector, NGO, community based, or in private sector. An overview of the most relevant stakeholders in FITCA EMMC mission is analysed below but a more complete analysis of each stakeholder is done at appropriate levels.

### **2.1 International and regional institutions**

FITCA EMMC is a regional program and therefore it is strongly supported by AU-IBAR as a part of its regional mandate in Eastern Africa. The Tsetse problem cuts across national borders and therefore requires collaborative approaches among countries that experience constrained agricultural production due to trypanosomosis. AU-IBAR has the technical and political good will from member states to perform the coordination role. It has the potential to sustain FITCA- EMMC initiatives through partnership with other key stakeholders at regional and international level. Key among these institutions include International Livestock Research Institute, whose research and development mandate in livestock sector provides a strategic opportunity for effective implementation of FITCA EMMC initiative on a sustainable basis. Other key institutions include indigenous Africa institutions like ICIPE, and IGAD. FAO is also a key actor has several projects and programmes that add value to FITCA-EMMC mission.

### **2.2 GOK and Line Ministries**

Although there are several ministries that are relevant for partnering with FITCA EMMC initiatives, the key ministries are the Ministry of Livestock and Fisheries and the Ministry of Agriculture and Rural Development. FITCA with a mandate of promoting better livestock and farming husbandry has forged collaborative initiatives with the GOK line ministries. These include the Ministry of Livestock and Fisheries through the DVOs and DLPOs, the Ministry of Agriculture through the department of agriculture, Ministry of Environment, Natural Resources and Wildlife through the departments of forestry and NEMA, the Ministry of Sports, Gender, Culture and Social Services and the Ministry of Planning and Development through the District Development Office. These government departments have helped in the project implementation by carrying out capacity building of the CBOs, private animal health providers and farmers so that they understand the project objectives and ideals. They have also been involved in diagnostic analysis of blood samples from cattle to check/monitor Trypanosomosis disease prevalence and in mobilization of the people.

The DDOs have had an oversight role and advising the NGOs the areas that need special development consideration. These stakeholders showed willingness to help FITCA with the EMMC component especially if provided with special training equipment and technical expertise together with facilitation in the areas of monitoring may be required. They are also calling for greater involvement in the implementation of FITCA project activities.



Ministry of livestock and Fisheries was created recently and therefore it is undergoing consolidation of various departments. Department of Veterinary Services and the Department of Livestock Production have the technical capacity for surveillance of diseases and tsetse control. District Veterinary Officer (DVO) and District Livestock Production Officers (DLPO) are active participants of the ongoing FITCA activities although their participation was only effective towards the end of the project implementation phase. Livestock inputs and veterinary services are privatised and currently not affordable by most farmers due to high levels of poverty. The project has initiated crush pens for livestock farmers but only a few farmers have animals and among those very few farmers can afford to purchase agrochemical for tsetse and tick control.

The status of livestock feed resources is extremely poor and therefore the farmers are likely to respond to introduction of agro forestry technologies such as introduction of *Calliandra*, *Desmodiums*; Napier grasses- *Sesbania sesban*. The main FITCA EMMC activities have been introduction of crush pens and tools for tsetse control. Initially the introduction of crush pens in the communities was well received because the farmers were expecting subsidized services and drugs for disease control. However, the farmers have shown less interest for cost sharing arrangements for essential drugs and livestock inputs. The farmers were also promised some credit to intensify their livestock production systems but so far they are still waiting for the project to fulfil its promises of providing soft loans to the community members yet the project is on its final year

The other major obstacle in motivating the community to take up the FITCA EMMC initiative is based on the fact that the community has not really rated environmental problems very high on their felt needs. Some FITCA area has only received about one year of project services hence there is a problem of ownership and the understanding of the project rationale that is based on FITCA concept. The communities require more education on the FITCA concept and especially their responsibility to continue with FITCA sponsored activities. As more emphasis is on the profitable farming techniques, the environmental impacts of modernised agriculture is not well known or appreciated. The technical staffs in this ministry are the ones directly linked to the challenge of tsetse control and its impact on the livestock production system. It is recommended that the ministry provide the leadership in taking over the FITCA EMMC initiatives. The District livestock extension officer and the District Veterinary officer are the key entry points on FITCA EMMC.

Ministry of Agriculture and Rural Development is willing to participate in FITCA activities that are relevant of the mandate of the ministry. However, limitation of operation facilities is a major handicap to the ministry just like in other government ministries. The National Agricultural and Livestock Extension Project (NALEP) under the coordination of the District Agricultural and livestock Extension Officer, (DALEO) is a strategic entry for FITCA EMMC. NALEP coordinates farming activities for a community within a catchment area of 400h. This approach in extension service is already institutionalised and well facilitated by trained human resources.

The ministry of Agriculture and Rural Development executes a FAO sponsored project on Field Farmers Schools. The project is well accepted by farmers because of its approach on-farm demonstration. This is an on-going project and it is possible for FITCA EMMC to involve the project staff and community leaders in creating environmental awareness for long-term impacts. The challenge of enlisting the support of ministry staff for FITCA EMMC vision and mission is the low financial allocation for operational costs such as field allowances and transport costs. The farmer groups are also unlikely to rank environmental concerns as priority issues without FITCA EMMC creating environmental awareness. Diversification of cropping system may influence the tsetse habitat. FITCA EMMC needs to monitor and sensitise the farmers and other development partners on the positive or negative changes in farming system. Revival of cotton industry under AGOA and expansion of sugar cane plantations and the introduction of cassava and agro forestry practices as part of farming systems are likely to alter the tsetse habitat either negatively or positively. Promotion of Tithornia plant species in FITCA zone for improved soil fertility during the fallow period is also providing good habitat for tsetse.

FITCA EMMC has the opportunity to sensitise and enlist the agrochemical companies involved in the intensification of agriculture production by mitigating the negative environmental consequences. British American Tobacco (BAT) and Mastermind tobacco companies are promoting the production of tobacco in Western Kenya, and indirectly the deforestation of the woody cover for firewood requirement during tobacco curing process. Introduction of genetically modified crops such as cotton and cassava has implication on the status of tsetse habitat in the long run

Ministry of Environment, Natural Resources and Wildlife through NEMA is a key stakeholder on matters of environmental monitoring and management. NEMA has the mandate to ensure compliance with any environmental guidelines that FITCA EMMC recommends for adoption by other stakeholders. FITCA EMMC therefore needs to enlist the support and participation of NEMA and the District Environmental Officers on environmental monitoring and management. NEMA is charged with the monitoring of the state of environment, environmental impact assessment of application of agrochemical inputs for tsetse and ticks control measures, monitoring of environmental quality, auditing of environment and co-ordination and enforcement of environmental by laws.

Ministry of Water resources and Management- The ministry is responsible for water quality analysis. The FITCA project has facilitated the establishment of livestock crush pens near rivers and other water sources where the risk of water pollution is high. In Bondo district for example water pans are for domestic and livestock uses. Control of bush encroachment and tsetse flies has encouraged settlements and farming of wetland areas. Promotion of horticulture and rice production in drained swamps around lake Victoria is likely to increase the risk of pollution of the lake and to the decline of fish production due to the loss of key fish breeding sites. The lowland around Lake Victoria is also prone to flooding every year due to destruction of catchment areas in the highlands. This is exemplified by the case of Bundalangi floods in 2003.



Provincial Administration at district and village level is a major stakeholder for community mobilisation. Such gatherings are important entry points for environmental awareness creation through FITCA EMMC initiatives. Failure to enlist the support of local chiefs and assistant chiefs has sometimes worked against the interest of the project initiatives. In Teso district, there are cases where chiefs were passing of wrong information to their communities regarding the project objectives and activities. Some chiefs were apparently working against the interests of the project. It is also important that during such public gatherings, the project approach be clarified to stop speculation, suspicion and the culture of handouts. The village development committees exist but are dormant. There is therefore need to revitalise these committees by training chiefs and local leaders on development approaches. Sustainability of FITCA EMMC initiatives will benefit from strengthened village level development committees.

Ministry of Sports, Gender, Culture and Social Services: The ministry has the mandate of registering community organisations, training group leaders on the leadership skills and ensuring that social groups function in accordance with agreed by-laws. The ministry also monitors group performances and promotes ownership of group initiatives. Youth groups are strategic entry point for creating awareness on environmental monitoring and management. The District Social Development Officer is the most relevant department in the ministry for establishing working collaboration with FITCA EMMC.

Ministry of Planning and National Development: The entry point is through the District Development Office (DDO). This office is in charge of co-ordination of development activities in the district. The office is also in charge of monitoring of development activities in the district and especially the activities of NGOs and sponsored projects by development partners. DDO facilitates the monitoring and evaluation of development project impacts

KARI-TRC- KETRI mandate is directly within the scope of FITCA EMMC initiatives and therefore becomes a strategic stakeholder. In partnership with ILRI and ICIPE, KARI TRC KETRI is the most appropriate organisation to take over the monitoring and management of environmental initiatives of FITCA EMMC.

### **2.3 Non Governmental Organizations (NGOs)**

There are many NGOs operating in FITCA EMMC project area. This is strength but it can also be seen as a weakness where these NGOs may be addressing almost similar problems hence overlapping mandates and when analysed nothing is seen to be going on – no tangible effects for instance; SACRED AFRICA and CESARD are all involved in crops and livestock in the same districts. More over, NGOs are well placed to tap the resources from donors and are not bureaucratic in their operations. They are Closer to the people; have constituency; and experience with communities; well positioned to introduce entrepreneurship- EMMC- better partnership with EMMC and are already

recognised on the ground and therefore very important entry points for FITCA EMMC Many NGOs are Priority NGOs e.g. in Siaya we have Church related NGOs- ACK and Catholic- focused on animal agriculture.

Bondo – Action Aid - crop agriculture; Kenya Draught Technology- conservation tillage fallow plants and introduction of better equipment for land preparation- planting and ploughing together- Dolichos lab- introduction of foreign crops not well received. Livestock Development Programme funded by Finnish Embassy in several districts- ex-post impacts of the project to build on- Teso and Siaya.

However some NGOs mandate is not within the FITCA-EMMC mandate, while others are so specific in their objectives hence not flexible. Such NGOs require some capacity development in order to carry on with the FITCA-EMMC activities or act only as community mobilisers e.g. Action aid is not interested in monitoring since this is not a priority as it mainly advocate on- environment and food security. Moreover, Staffing is another limiting factor to many NGOs on the ground. Many NGOs have very small number of staff and hence not able to go to other activities outside their mandate e.g.- Action aid has only three people in a location. Another problem with NGOs is lack of adequate resources to carryout some activities and therefore requiring some facilitation while other NGOs are unstable and with short life of operations without long term perspective and therefore acquiring short term impacts. Many NGOs are result - oriented and not process-oriented and therefore not concerned with what happens after their activities while others view other development agencies as competitors and therefore permits very little collaboration. However since they are present in the FITCA-EMMC project area, they are able to mobilise the community if within their mandate and through the existing collaboration with other stakeholders, information dissemination can be made possible.

However there is need to develop the capacity of these NGOs on holistic approach of issues other than being too specific and not only targeting the most vulnerable but also involve the change agents in the community. There is also the need of addressing the problem of ownership of the groups working with the NGOs since some NGOs consider them as their groups and therefore leading to Conflicting development approaches that promote hand out mentality which has been augmented by sponsorship of participants

## **2.4 Community Based Organization (CBOs)**

In the FITCA project area, there are many CBOs and social groups, which have volunteer spirit and are at the grass roots level. These CBOs are willing to participate in development projects. However, they have a problem of group dynamics, social ties, conflicts and leadership problems. Their external resources have weak connections and consensus building is a problem due to conflicting interests hence the need to develop their capacity in group dynamics and financial management. Due to their level of operation, they are prone to Cultural influences and gender issues are not well taken care of. However, through the existing groups in which; leadership training was done by previous project and the success story in some instances- example Nyakasumbi in Bondo, FITCA-EMMC can tap on this



and deliver the information pertaining to the environment. Most of the CBOs working within FITCA area have either been in existence or formed around crush pens and indeed the names of the crush pens are the same as the CBOs. Despite the fact that they are many and important stakeholders, CBOs are very sensitive to any wrong approaches since they are galvanised by expectation of external resource inflow and have little sustainability after the project.

These CBOs are very enthusiastic at the onset of projects in their various divisions but if their enthusiasm is not well channelled can fuel the demise of the CBO through poor management in day to day running of the CBO especially the income, expenditure and politicking. There is need to enhance capacity development of the groups and oversight training in-group dynamics.

## **2.5 Private Entrepreneurs**

This group has economic motivation to sustain their livelihoods or interests. They have the expertise and capacity to carry on their activities. Besides, they are efficient and effective and have resources to influence change and marketing of new idea. They are also effective in lobbying an important aspect for FITCA-EMMC.

However, profit motivation may not allow for environmental impact mitigation measures for instance Webuye Paper has forestry plantation; Nzoia Sugar Company- littering the roads on the way to factory and polluting rivers hence creating externalities in achieving their goal. They therefore require training on the need for impact mitigation and sustainable use of the resources they are using. Without profit, the private sector is unwilling to co-operate-and may require some subsidy. NEMA can be used to ensure compliance and mitigation of application of agrochemicals and marketing of tsetse controls tools.

Though BAT is promoting forestry, it is for its own benefit in curing tobacco and therefore they require training on the need to care for the environment. Sustainability can be achieved through involvement of private sector. Though competition for markets will not allow ownership of impacts, this group is an important stakeholder considering their strengths. What is needed is capacity enhancement and environmental monitoring of their activities.

This group of people or organisations that have economic objectives that derive its existence from the farmers and other related group. In this category, Agrovets stock herbicides, pesticides and acaricides from which farmers buy to spray cattle and crops. They are an important team as it has experts in disease diagnosis in livestock and crop production. Others here include Monsanto, Bayer and Coopers limited who supply the project areas with chemicals. The private sector can be relied upon for information and technology transfer to local communities. Marketing agencies that include national and multinationals that have a stake in crop production. British American Tobacco (B.A.T) and Mastermind encourage farmers to grow tobacco as a cash crop. Tobacco curing uses a lot of fuel wood and the negative impacts on the environment need not be ignored. Mastermind and BAT-Kenya are

supplying farmers with seeds for the growing of tobacco and subsequent marketing of the produce. Kenya Agriculture Commodity Exchange (KACE) is charged with marketing of the agricultural produce and especially availing information regarding market status in Kenya and spreading the same to consumers all over the country. In this group also is the regional NGO called SACRED AFRICA based at Bungoma District, which is charged with marketing of maize crop for farmers among other activities.

## **2.6 Institutions operating at National and Local levels**

This group has expertise and institutional framework and are able to take up monitoring though they have bureaucracy problem some have projects on the ground e.g. ICRAF has tithornia project; fallow farming using Sesbania and other cover crops which are leguminous; control of noxious weeds and 50% striga reduction. However, they have financial problems as they rely on projects and this leads to low adoption rate. Information dissemination by this group is usually poor since their research is not on-farm. This therefore permits no sustainability since even the locals are not involved in their activities. But institutions such as: ICIPE, DRSRS, KETRI, KARI, KEFRI, and National Museums provides a good opportunity to undertake monitoring activities if facilitated.

## **2.7 Recommendations**

- a) AU-IBAR is the most suitable organisation for facilitating the institutionalisation of FITCA EMMC at national level because of its closeness to the technical competence in coordinating regional livestock development programmes and because of its political good will from member states. AU- IBAR can provide a forum for sharing experiences in FITCA EMMC initiatives among member states that can influence positive regional policy changes. Relevant stakeholders for this forum include, ICIPE, FAO, FEWS-NET and ILRI among others discussed below.
- b) ILRI is well positioned to co-ordinate research and capacity building among regional and international stakeholders. The partnership between ILRI and AU- IBAR adds value to national efforts to monitor and manage environmental changes in tsetse controlled farming areas.
- c) Participation of Government departments directly concerned with FITCA EMMC initiatives needs strengthening in terms of human and non human resources if the vision and mission of FITCA EMMC is to be sustained and integrated in the national policies and institutions. The Departments of Livestock Production and Veterinary services together with other government institutions like KARI-KETRI will need to participate and lead the way forward after the FITCA EMMC project terminates at the end of 2004.



- d) The role of the private sector is critical if the FITCA EMMC initiative is to be taken up by the local communities. The involvement of stakeholders in private sector needs to be enhanced in light of the new government role as a facilitator and not an implementer of development initiatives. There are several multinational companies operating in FITCA zone and their involvement in capacity building is important for sustainability. The Government policy is to continue supporting the development and strengthening of the role of private sector. Privatisation of veterinary services, control of tsetse flies farming areas by private companies and contracting NGOs to work closely with the Community based organisations will ensure that FITCA EMMC initiatives are sustained. More involvement of provincial administration and politicians on environment issues will increase adoption rate of tsetse control technologies. Training of the provincial administration on the objectives and activities of EMMC will reduce suspicion and enhance community participation
- e) High poverty level in FITCA project zone is a great hindrance in the promotion of appropriate resource management practices. FITCA districts have very high poverty levels. For any involvement of the community in environment management, poverty alleviation through entrepreneurship need to go hand in hand if positive results are expected some of the districts e.g. Bondo district, most households are lead by women or children. This scenario has been brought about mainly by HIV/AIDS. There is need to empower those vulnerable groups (women and children) for them to contribute in proper resources management at their discretion. NGOs and CBOs will need to be trained and facilitated to target the most needy within communities and especially female headed and orphaned children.

In some of the districts e.g. Bondo, farmers rely only on a single enterprise e.g. on livestock enterprise farming is putting them at risk should this fail. There is therefore need to educate the farmer on the importance of diversification of enterprises to spread the risk

### **3.0 INTERNATIONAL AND REGIONAL INSTITUTIONS RELEVANT TO FITCA EMMC KENYA**

#### **3.1 Regional Center for Mapping of Resource for Development (RCMRD)**

##### *3.1.1 Introduction*

It is an intergovernmental Organization currently with 15 contracting member states.

These are Botswana, Comoros, Ethiopia, Kenya, Lesotho, Malawi, Mauritius, Namibia, Seychelles, Somali, Sudan, Swaziland, Tanzania, Uganda and Zambia.

##### *3.1.2 Mission*

To promote the development and use of geo-information for sustainable development of Africa. This is done through capacity and capability building and provision of advisory and consultancy services to member states and other clients.

##### *3.1.3 Relevant Activities*

The center has a "Geo-information and Environmental Management Division"

This division has the following activities: -

- ◆ Environmental data collection and archiving
- ◆ Maintenance of early warning systems for food security.
- ◆ Monitoring of changes in the environment
- ◆ Addressing urgent environmental problem in the member states.
- ◆ Training land use/land cover degradation assessment and monitoring using remote sensing and GIS, which is within FITCA-EMMC mandate.

##### *3.1.4 Relevance to FITCA-EMMC*

The Division of Geo-information and Environmental Management can be a good entry point in co-ordinating intergovernmental monitoring of the tsetse habitat and land use changes in East and Southern Africa. The framework of cooperation exists and the organization is also involved in training and monitoring the environmental issues in the region.

#### **3.2 International Center For Insect Physiology And Ecology (ICIPE)**

ICIPE interests are vital global issues and regional concerns; human health, livestock productivity, food security, biodiversity, poverty alleviation, sustainable use of natural resources through research on insects and other arthropods also to promote scientific capabilities and a science and technology culture in Africa through capacity building, publishing information and communication activities.



### *3.2.1 ICIPE Environmental Health Division*

The centre has several research activities that deal with inventory, conservation, and utilisation of biodiversity. Research include the environmental impact of genetically modified organism, contribution of arthropods to ecosystem services ranging from soil biota to pollinators bio-protection for medicinal plants and other income generating products for insect control and other uses.

The focus is on activities that will support the management oriented steps, forming bridges to activities where opportunities exist for example, natural product chemistry, raising honeybee, conservation of silkworm as generating alternatives to forest destruction.

Environmental Health Division (EHD) has the following areas of research

- ◆ Biodiversity and conservation
- ◆ Bio-prospecting
- ◆ Commercial insects
- ◆ Biosystematics.

### *3.2.2 ICIPE-EHD Relevance to FITCA-EMMC*

1. It has its interests and research activities on biodiversity and conservation.
2. Research on practical management of natural resources by communities through commercial related activities e.g. Bee-keeping, silkworms conservation etc
3. The focus is the farmer /communities through capacity building, education and outreach to promote practical biodiversity conservation.
4. ICIPE has activities all over Kenya, and in particular an institutional base and field station in FITCA-EMMC

## **3.3 Land-use and Change Analysis (LUCID)**

### *3.3.1 Mandate*

Identify the social-economic and environmental driving forces and consequences of land-use and environmental changes. The LUCID network of projects that seeks to generate and provide the best available information on land-use, land-cover and natural resource to local, national and regional policy makers and to scientists especially these concerned with global environmental changes.

### *3.3.2 Specific objectives*

- ◆ To quantify LU and LC change at landscape and regional scales
- ◆ To identify the changing relative importance of the root causes of land-use/ land cover change
- ◆ To understand the consequences of these LU/LC changes for ecosystems (biodiversity, soil fertility, vegetation, hydrological systems, land degradation, disease and climate change)

- ◆ To understand the consequences of these LU/LC changes for humans (disease, land use conflict, human/ wildlife conflict, change in access to resources and in production systems)
- ◆ To understand the linkages between LU and climate change, and the vulnerability of people and ecosystems to LU and climate change
- ◆ To develop models and scenarios of change to provoke discussion of different policy alternatives among stakeholders
- ◆ To develop a replicable methodological framework for anticipating and managing land use and ecosystem change
- ◆ To build the capacity of scientists, policy makers and natural resource practitioners to better understand and manage LU and LC change

### 3.3.3 *LUCID Impact of land-use changes on biodiversity vegetation and soils in farming systems after tsetse control*

Objective of this project is to assess the impact of tsetse control through change in land use, livestock and human population on biodiversity, soil fertility and vegetation in crop- livestock systems.

LUCID uses RS and ground truthing to quantify the rates and specificity of LU/LC. Field teams compare soil, vegetation structure and the numbers and composition of animals and plant species in the areas with and without tsetse control before and after control. Field sites are in Western Kenya.

### 3.3.4 *Relevance of LUCID to FITCA EMMC*

This programme monitors the impacts of land use change on biodiversity vegetation and soils in farming systems after tsetse control. This is relevant to the vision and mission of FITCA EMMC. Findings from LUCID work could be used to form basis for capacity building and education for the stakeholders dealing with the challenges of promoting sustainable rural development in tsetse fly controlled farming areas.

## 3.4 **People, Land Management and Environmental Change (PLEC)**

### 3.4.1 *Mandate*

To develop sustainable and participatory approaches to conservation, especially of biodiversity, within small farmers' agricultural systems, and in participation with the farmers. The United Nations University developed People, Land Management and Environmental Change (UNU/PLEC), in 1993. It involves a collaborative effort among scientists from across the developing world. In March 1998, the UNU/PLEC became a GEF-funded project. UNU/PLEC is executed by UNU through a network of locally based clusters that have been established in West Africa (Ghana, and Guinea), East Africa (Kenya, Tanzania, and Uganda),

### 3.4.2 *Objectives*

The specific objectives of the project are as follows:

1. To establish historical and baseline comparative information on agro-diversity and biodiversity at the landscape level in representative diverse regions;



2. To develop participatory and sustainable models of biodiversity management based on farmers' technologies and knowledge within agricultural systems at the community and landscape levels;
3. To recommend approaches and policies for sustainable agro-diversity management to key government decision makers, farmers, and field practitioners; and;
4. To establish national and regional networks for capacity strengthening within participating institutions

#### 3.4.3 *PLEC Approach*

The approach is different from mainstream agricultural research at experiment stations under controlled conditions. The PLEC approach is to collaborate with farmers and local communities in identifying appropriate conservation approaches that are environmentally, socially and financially sustainable, and which sustain biodiversity. By integrating locally developed knowledge of soil, climate, biological resources and other physical factors with scientific assessments of their quality in relation to crop production, a set of sustainable agricultural technologies can be devised so that crop diversity and management diversity are maintained.

At PLEC's 'demonstration site- villages around the world, PLEC becomes the farmers' own enterprise, and scientists are the facilitators, not the instructors. Collaborating farmers manage varied biophysical conditions, growing a range of crops and using biodiversity with discretion. The project describes what they do as 'agro diversity'. Scientists help farmers in achieving their own conservationist goals. This participatory process will eventually enhance farmers' and local communities' ability to adapt to environmental, social and economic change.

#### 3.4.4 *Activities*

The principal project activities are as follows:

1. Establish demonstration sites and engage in primary data gathering by villagers and scientists working together, assembling social data and identifying successful resource-management patterns, and surveying agro-biodiversity, in representative countries;
2. Jointly with farmers, carry out on-farm experiments and monitoring to analyse, measure and compare resource management methods and technologies, and seek improvements;
3. Hold outreach and awareness workshops on in-situ agro-biodiversity conservation;
4. Integrate scientific and community social information, and analyse findings presented at village, national, and cross-country workshops, involving decision-makers; and,
5. Organize, support and participate in the training of farmers, extension workers, local officials and students, creating client and stakeholder involvement, which will ensure the sustainability of PLEC actions.

#### 3.4.5 *PLEC - Kenya*

- Assessment of diversity in management of soil, water, biota and genetic resources in different socio-economic environments;

- Integrating locally developed knowledge of soils, climate and biological resources with scientific assessment of their quality in relation to crop production through interactive demonstration sites

### 3.5 World Agro forestry Centre (WAC)

#### 3.5.1 Vision

WAC formerly ICRAF vision for the year 2010 is that through agro forestry, 80 million poor people will have more options for improved livelihoods, and the global environment will be more sustainable.

Outputs from the Natural Resource Problems, Priorities and Policies Programme

#### 3.5.2 Mission

Improve human welfare by reducing poverty, improving food and nutritional security, and enhancing environmental resilience in the tropics. ICRAF engages in strategic and applied research and development activities leading to a more sustainable and productive land use. ICRAF works in close partnership with national agricultural research systems, universities, NGOs and private organisations.

WAC focuses on four primary themes:

- Agro forestry systems that help to restore soil fertility and regenerate degraded lands
- Market-driven tree cultivation systems that help lift rural poor out of poverty and improve their health and nutrition
- Agro forestry systems that enhance environmental services, such as watershed protection, biodiversity conservation, and carbon sequestration
- Capacity building for agro forestry research and development

#### 3.5.3 ICRAF Activities in Western Kenya

##### ➤ *Agro forestry Options for Improving Soil Fertility and Managing Striga in Western Kenya*

Improving fallows with fast-growing leguminous trees, shrubs and cover crops is one promising technology that tackles the problems of low soil fertility and Striga in a complementary way. For instance, research in farmers' fields in Western Kenya has repeatedly shown that *Sesbania sesban* and other tree fallows can decrease the seed pool of the parasitic weed *Striga hermonthica* by 50%.

##### ➤ *Agro forestry for Integrated Watershed Management*

The World Agro forestry Centre's research on integrated watershed management is best developed in Southeast Asia and East Africa.

##### ➤ *Agro forestry for Biodiversity*

Agro forestry systems can affect biological diversity in both direct and indirect ways. Tree-based farming systems can add to the agro-biodiversity of farming landscapes, both the intra-species diversity within tree species and the inter-species diversity of tree vegetation in the landscape. Adoption of Agro forestry by farmers in FITCA area will affect the habitat for tsetse fly and therefore it is important to collaborate with ICRAF in FITCA area in Western Kenya.



➤ *Agro forestry for Climate Change Adaptation and Mitigation*

Climate change is one of the most insidious processes shaping livelihoods and landscapes in the developing world. Climate change conventions and arrangements are providing new opportunities for developing country farmers to benefit from the value of the carbon that are stored in the trees and soils that comprise agro forestry systems. In addition, agro forestry systems can help farmers to diversify their income sources and to enhance the resilience of their local environments.

*3.5.4 Relevance to FITCA EMMC*

The adoption of agro forestry technology will affect the habitat of tsetse in western Kenya. It is likely to promote favourable habitat for the tsetse especially if invasive species are introduced in fallow lands. This organisation is also regional and therefore it is a key stakeholder in tsetse-infested areas where bush-clearing needs replacement with more preferred multipurpose tree species. Agro forestry is also a part of the emerging farming systems that are being recommended for sustainable agricultural productions systems. This organisation is active on site and therefore it is one to the strategic organisations that FITCA EMMC needs to contact for close working collaboration in monitoring and managing the tsetse habitat.

### **3.6 Programmes Against African Trypanosomiasis (PAAT)**

*3.6.1 Mandate*

The Programme Against African Trypanosomiasis (PAAT) aims at providing direction and focus to the control of trypanosomiasis within the broader context of food security, human health, rural development and sustainable agriculture. PAAT was officially established in 1997 and is managed by a joint secretariat composed of FAO, AU/IBAR, IAEA, and WHO.

*3.6.2 Governance and implementation of PAAT*

The Secretariat, based at FAO headquarters, Rome, Italy, coordinates the implementation of programme decisions and feedback between the Programme Committee, Advisory Groups Coordinators and stakeholders. In addition, the Secretariat collects, analyses and disseminates information concerning to tsetse and trypanosomiasis and related development.

The Programme Committee, composed of representatives of donor and international research organizations, affected countries, senior technical advisors, the secretariat staff and the PAAT chairman, is a decision-making body with a role of providing programme direction, based on information provided by technical advisory modules through the secretariat.

The Panel of PAAT Advisory Group (PAG) Coordinators provides information on specific fields of expertise and research development, technical and institutional proposals for consideration by the PAAT Committee. The Panel, in turn, receives advice from the FAO Liaison Officers, field based country representatives.

### 3.6.3 *Relevance to FITCA EMMC*

The programme complements the work of AU- IBAR and brings together the international stakeholders in tsetse control within an integrated framework of rural development and food security. FAO as the lead agency is expected to provide monitoring and evaluation guidelines for the status of tsetse control and impacts on farming systems in FITCA. PAAT is strategically positioned to establish and maintain quality control of data collection and analysis on the status of environmental impacts of tsetse control activities in affected countries and regions.

This programme brings together key stakeholders in tsetse control interests for improved food security of the rural populations. This programme can therefore play a co-ordinating role among the stakeholders to avoid duplication of efforts and to provide a platform for sharing lessons and experiences in tsetse control and the status of the human livelihoods in tsetse controlled farming areas.

## 3.7 **FEWS NET- FAO/IGAD Programme**

The Goal of the **Famine Early Warning Systems Network (FEWS NET)** is to strengthen the abilities of African countries and regional organizations to manage risk of food insecurity through the provision of timely and analytical early warning and vulnerability information.

### 3.7.1 *Mandate*

FEWS NET is concerned with monitoring food security for the purpose of predicting problems with access to food. This approach of monitoring food security requires an analysis of rural livelihoods. FEWS NET employs food economy principles and techniques to ensure a quantifiable and therefore comparable output from its livelihood baselines. These baselines are used as the reference point against which to judge the effects of current shocks.

### 3.7.2 *Objective*

To help establish more effective, sustainable, and African-led food security and response planning networks that reduces the vulnerability of at-risk groups

### 3.7.3 *Activities*

1. Monitoring of various indicators of vegetation for two primary purposes: early warning and hazard analysis. Vegetation indicators are obtained primarily through remote sensing imagery and crop development reports, and are then ground-truthed by FEWS NET field staff. These data are in turn combined with baseline vulnerability (livelihood) information to allow for the evaluation of the impact, or risk to food insecurity
2. Monitoring the effects of drought on food access and availability in rural areas, as well as urban areas with strong rural linkages. Drought is the natural phenomenon for which FEWS NET has the most experience and tools (remotely sensed products and ground-based indicators) for monitoring



3. Monitoring of climate indicators for two primary purposes: early warning and hazard analysis. The climate indicators, when combined with baseline vulnerability (livelihood) information, facilitate the evaluation of the impact, or risk to food insecurity
4. Monitoring of market prices for food commodities (such as millet, sorghum, maize, rice, cassava and cooking bananas). Market prices provide a snapshot of current and expected supply of a commodity. Prices also affect food access of both producers and consumers.
5. Monitoring the effects of Health/HIV/AIDS on household food insecurity. HIV infections translate into a direct shock on household livelihoods and food security, through reducing available labor, increasing expenditure requirements, reducing income, and placing stress on already-stretched sharing networks.
6. Strengthening of the technical capacity of its network partners to do improved early warning and food security monitoring and reporting. FEWS NET strengthens capacity through the transfer of tools and methods, using opportunities such as training sessions, workshops, on-the-job training, and conferences

#### *3.7.4 Relevance of FEWS-NET to FITCA EMMC*

FEWS NET has institutional capacity at national and regional levels to collaborate with FITCA EMMC initiatives in areas infested with tsetse flies. Most of the activities that are monitored under this programme are relevant to FITCA EMMC mandate. Such parameters as vegetation, climatic events (rainfall, droughts and floods), and socio economic factors determine the performance and sustainability of rural livelihoods in FITCA areas. Monitoring of livestock and human disease prevalence can easily be integrated to the FEWS- Net monitoring framework at field and at policy levels. It is therefore prudent to include the established structures under FEWS-NET at local levels as strategic stakeholders in the monitoring of development of sustainable livelihoods in FITCA EMMC.

### **3.8 African Union- Inter-African Bureau of Animal Resources (AU/IBAR)**

#### *3.8.1 Mandates*

The Inter-African Bureau of Animal Resources (IBAR) of the African Union (AU) has the following mandates:

1. Co-ordination of the control and eventual eradication of epizootics
2. Promotion of livestock development
3. Co-ordination and harmonization of national livestock policies.

Pan African Control of Epizootics (PACE) programme is the main thrust of AU-IBAR in fulfilling its mandate. The main objectives of the PACE programme are concerned with:

- Reducing poverty by improving the income of livestock farmers.
- Food security for the most disadvantaged populations through the addition of animal protein.

### 3.8.2 Activities

Some of the activities relevant to mandate on the coordination of the control and eradication of epizootics under Pan Africa Control of Epizootics (PACE) and that are done in collaboration with International Atomic Energy Agency (IAEA) include:

1. Establishment of a network of laboratories for the diagnosis and surveillance of rinderpest using the nuclear and related techniques such as ELISA and PCR
2. Establishment of a regional capability for the supply of reagents and materials for animal disease diagnosis
3. Capacity Building, leading towards sustainability, through the organization of fellowships, workshops and training courses which are in line with national and regional programmes.
4. Pan African programme for the Control of Epizootics. A critical component of PACE is the ability to correctly diagnose and monitor the major epizootics.
5. Farming in Tsetse Control Areas (FITCA)-Critical to the success of FITCA will be efficient and reliable diagnosis of trypanosomosis and the capability to undertake large-scale surveys to determine the prevalence and distribution of the disease and to assess the impact of the programme. The following activities are supported by AU/IBAR/PACE/IAEA
  - a. Improve and consolidate the established techniques for the diagnosis of Trypanosomosis at the national level;
  - b. Introduce improved diagnostic tests such as ELISA at the national level and PCR ELISA at the regional level; Use these tests for the management of tsetse control programmes to classify areas and the livestock kept therein into high, medium and low tsetse challenge;
  - c. Assist in regional training activities for the capacity building for area-wide tsetse and Trypanosomosis control.
  - d. Pan African Tsetse and Trypanosomosis Eradication Campaign in collaboration with IAEA's Department of Technical Cooperation: The specific IAEA contributions to tsetse and Trypanosomosis control efforts include normative work and applied research under the FAO/IAEA Programme and IAEA's



Department of Technical Co-operation. The Agency is active in the field of improved diagnosis and surveillance of the disease and the SIT component.

### *3.8.3 AU/IBAR Relevance to FITCA EMMC*

AU/IBAR is already facilitating the implementation of FITCA programme. EMMC component has been contracted to ILRI but AU/IBAR remains the executing agency. The International Atomic Energy Agency (IAEA) is already targeting FITCA programme as indicated in the activities listed above. AU/IBAR has a wide range of potential collaborators who are capable of enhancing the capacity of FITCA EMMC to improve its technical capabilities. AU/IBAR will continue to be the strategic partner and stakeholder because of the relevance of its mandates to FITCA EMMC

## **3.9 International Livestock Research Institute (ILRI)**

### *3.9.1 Mandate*

ILRI has the mandate to improve the well being of people in developing countries by enhancing the contribution livestock makes to smallholder farming. This mandate is implemented through research in livestock health and nutrition. ILRI has the mandate for the system-wide livestock programme for the improvement of feed utilization and natural resource management in crop-livestock systems.

### *3.9.2 Objectives*

The overall objective of the ILRI mandate is the development of technological interventions and other research-based products that increase and sustain farm productivity.

*Specific objectives include: -*

- Refine management systems to enhance the positive and minimize the negative environmental impacts due to the intensification of livestock-dominated systems (pastoral, agro pastoral and mixed crop-livestock)
- Characterize and conserve the genetic diversity of indigenous tropical livestock and the forages and crop residues that feed them
- Select and improve tropical livestock, forages and microbes to increase food production efficiencies, to allow for better adaptation to harsh production environments, and to take advantage of changes in demand, production or marketing systems
- Provide policy options that support equitable and sustainable development of livelihoods that depend on livestock resources, encouraging in particular policies designed to reduce hunger and poverty, improve food security and protect the environment

### 3.9.3 *Activities/products*

- a. Production of maps of bovine and protozoan genomes
- b. Improvement of vaccines and diagnostics
- c. Development of integrated disease control strategies
- d. Formulation of economic and systems models
- e. Policy analyses
- f. GIS-based decision –support systems
- g. Establishment of a tropical forage gene-bank
- h. Development of technologies for incorporating forages on to small-holder farms
- i. Development and introduction of systems that improve feed supplies for small holder dairy producers
- j. Development of feeding strategies for multiple purpose livestock (dairy-draught cows)
- k. Introduction of animal traction technologies that improve the productivity of heavy clay soils

### 3.9.4 *Relevance to FITCA EMMC*

ILRI has contracted by AU/IBAR to monitor environmental monitoring and management of FITCA. ILRI is required to advice the project implementation team of the potential positive or negative impacts of farming system in tsetse controlled areas. ILRI is therefore interested to see that FITCA- EMMC is well integrated in existing institutional arrangements concerned with farming practices in tsetse controlled area in western Kenya both at national and regional level of co-ordination.

### 3.9.5 *Area of activity*

ILRI is interested in linking the farmer and his environment in western Kenya with the scientific findings that have implication on the environmental monitoring and management practices. The institution is establishing a baseline for the land use system in the project area identifying long term ecological trends of natural resources status with a view to recommending to stakeholders on the best practices in farming systems in tsetse controlled area. It is for this reason that ILRI is searching for potential collaborators among the interested stakeholders to take over the environmental monitoring and management roles.

Activities ILRI is currently undertaking include: awareness creation among the farmers and stakeholders; mapping of land use system in project area; identifying the status of the natural resources in the project area and establishing long term surveillance system on all aspects of land use and land use changes that is likely to affect the status of tsetse habitat.



ILRI will also be involved in handing over strategies and activities of environmental monitoring and management to relevant stakeholders to ensure project impact sustainability after the project sponsor withdraws.

### **3.10 IGAD (Inter-Governmental Authority on Development)**

#### *3.10.1 Mandate*

The mandate of IGAD is to coordinate the efforts of member states in the priority areas of economic cooperation, political and humanitarian affairs and food security and environment protection.

#### *3.10.2 Mission of IGAD*

IGAD Mission is to achieve regional cooperation and economic integration through promotion of food security, sustainable environmental management, peace and security, intra-regional trade and development of improved communications infrastructure

#### *3.10.3 IGAD Objectives/Activities*

The ultimate goal of IGAD is to achieve economic integration and sustainable development for the region. In order for IGAD to play its proper role in regional and continental integration and be recognized as a suitable vehicle for promoting development in the region, it must address the following objectives:-

- Promote joint development strategies and gradually harmonize macro-economic policies and programmes in the social, technological and scientific fields;
- Harmonize policies with regard to trade, customs, transport, communications, agriculture, and natural resources, and promote free movement of goods, services, and people within the region.
- Create an enabling environment for foreign, cross-border and domestic trade and investment;
- Initiate and promote programmes and projects to achieve regional food security and sustainable development of natural resources and environment protection, and encourage and assist efforts of Member States to collectively combat drought and other natural and man-made disasters and their consequences;
- Develop a coordinated and complementary infrastructure, in the areas of transport, telecommunications and energy in the region;
- Promote peace and stability in the region and create mechanisms within the region for the prevention, management and resolution of inter-State and intra-State conflicts through dialogue;
- Mobilize resources for the implementation of emergency, short-term, medium-term and long-term programmes within the framework of regional cooperation;

- Facilitate, promote and strengthen cooperation in research development and application in science and technology.

#### *3.10.4 Relevance of IGAD to FITCA EMMC*

FITCA EMMC is a sub-regional programme of six countries mainly within IGAD sub-region. IGAD has an environmental component, which can strengthen the FITCA EMMC where necessary. IGAD is also involved in peace building and conflict resolution. Displacement of human population due to internal and external conflicts leads to bush encroachment as rural population abandons farming. This has already taken place in areas of conflicts like Northern Uganda, Southern Sudan and in Somalia. Bush encroachment leads to improved habitat for tsetse flies. So any gains that has been achieved or that will in future be achieved through FITCA initiatives, will be eroded away if conflicts occur in those areas. IGAD is therefore a key stakeholder in FITCA crossborder areas where conflicts exist.

IGAD collaborates with FEWS –NET (Famine Early Warning System Networks that involves several partners. IGAD is therefore in a position to facilitate or provide a suitable platform for subregional stakeholders on food security issues and environmental related challenges.

## **4.0 NATIONAL INSTITUTIONS**

### **4.1 National Environment Management Authority (NEMA)**

#### *4.1.1 Mandate*

To exercise general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of the Government in the implementation of all environment policies.

#### *4.1.2 Vision*

To achieve a clean and healthy environment for all.

#### *4.1.3 Mission*

To promote, safeguard and enhance the quality of the environment.

#### *4.1.4 Functions of the Authority*

- ♦ Coordinating the various environmental management activities being undertaken by the lead agencies.
- ♦ Promoting the integration of environmental considerations into development policies, plans, programs and projects with a view of ensuring proper management and rational utilization of environmental resources on sustainable yields basis, for the improvement of the quality of life in Kenya.
- ♦ Examine land use patterns to determine their impact on the quality and quantity of natural resources.



- ◆ Carry out surveys, which will assist in the proper management and conservation of the environment.
- ◆ Mobilize and monitor the use of financial and human resources for environmental management.
- ◆ Monitor and assess activities being carried out by relevant lead agencies, in order to ensure that the environment is not degraded by such activities. Management activities must be adhered to and adequate early warning on impending environmental emergencies is given.

#### *4.1.5 Priority concerns*

NEMA endeavors to enhance sustainable environmental management in order to reduce or stop environment stress, through effective co-ordination and supervision of stakeholder activities.

It also recognizes the importance of networking with NGOs and it has established a liaison office for NGOs.

#### *4.1.6 Relevance to FITCA-EMMC*

NEMA in collaboration with District Environmental officers is the most suitable institutions to coordinate and ensure compliance with environmental standards. The environmental impacts of land use change are required for any development intervention that is likely to affect the environment positively or negatively.

NEMA also through the same department, it can produce appropriate environmental assessment guidelines and analyse environmental impacts off rural development and FITCA activities in the project areas.

## **4.2 Department Of Resource Surveys and Remote Sensing (DRSRS).**

### *4.2.1 Mandate*

Collection, storage, analysis and dissemination of geo-spatial information on natural resources to facilitate informed decision-making for sustainable management and development with the major aim of alleviating poverty and environmental degradation

### *4.2.2 Mission*

Promote sustainable development of geo-spatial information databases while upholding efficiency in its dissemination for purpose of alleviating poverty.

### *4.2.3 Vision*

Becoming a national focal center of excellence in matters related to development of national geo-spatial database on most renewable and non-renewable natural resources and environment for rapid decision-making.

### *4.2.4 Activities*

- ◆ Since its inception, the principle task among others was to monitor the trends of land resources within the country. This was executed through aerial surveys of Livestock and wild life,

assessment of environmental attributes regarding vegetation, plant production, and land-use and land degradation.

- ♦ Analyzing the above information together with human activities and used in Development plans geared towards poverty reduction.

#### 4.2.5 *Relevance to FITCA-EMMC*

The department has the capacity and resources to undertake environmental monitoring of land use and land –use change and ecological changes over long term using remote sensing and aerial photography. These are essential tools for resource mapping. The Department is also the focal point for desertification monitoring at national level.

### 4.3 **Kenya Agricultural Research Institute**

#### 4.3.1 *Vision*

KARI is an institute of excellence in agricultural research and technologies transfer, contributing to an improved quality of life for all Kenyans.

#### 4.3.2 *Mission*

To develop, disseminate agricultural technologies in collaboration with stakeholders and to contribute to sustainable improvement of the livelihoods of Kenya citizens by increasing agricultural productivity, post harvest value of agricultural and livestock products, and conserving the environment.

In pursuit of this Mission, KARI proactively seeks to acquire and contribute knowledge and creative solutions that are participatory and client oriented; holistic and system oriented; gender sensitive and affordable to its stakeholders.

#### *a) KARI – Kenya Soil Survey (land resource centre)*

KSS is a commercial component of KARI whose mandate is to provide advisory and research on soils and other land resources for the purpose of improving crop production, soil and water management and conservation, land use management, bio diversity conservation etc.

Its clientele include the public and private sector. Some of the environment related services KSS offer are;

- ♦ Vegetation surveys
- ♦ Soil physical
- ♦ Chemical analysis
- ♦ Geographical information
- ♦ Soil fertility appraisal
- ♦ Land assessment for rainfed and arid irrigation agriculture
- ♦ Environmental conservation management



- ◆ Soil surveys, collaborative projects (Community groups, NGO, CDO, donor, consultants, GOK, Development authorities and others.)
- ◆ Training and consultancies in soil issues.

KSS advises clients on irrigation, type and quality of fertilizers and manure to apply, planting time crop husbandry.

#### Relevance of KARI – KSS to EMMC

For soil issues KSS can be very much of help, especially in analysing and quantifying of erosion with change in land use.

KARI has several departments that collaborate with FITCA in the field. The promotion of cassava variety that is disease resistant has proved very popular with farmers in FITCA area. This collaboration needs strengthening to enhance sustainability of FITCA-EMMC impacts.

#### *b) KARI – Trypanosomosis Research Center (TRC)*

##### Mandate

TRC formerly Kenya Trypanosomosis Research institute (KETRI) is a semi autonomous parastatal under the ministry of livestock development and is currently affiliated to KARI. It is mandated to carry out research that would lead to effective control of human and animal trypanosomosis and effective reclamation of tsetse-infested lands.

##### Research objectives

- ◆ To collect and collate information that will lead to an enhanced understanding of the problems of tsetse and trypanosomosis in Kenya.
- ◆ To collect data on vector and disease dynamics within various agro-ecological zones and propose methods for predicting outbreaks.
- ◆ To study pathogenesis and pathology of trypanosomosis in order to improve the knowledge on the pharmacology, therapeutics and general management of trypanosomosis.
- ◆ To develop tsetse and trypanosomosis control techniques with tangible social-economics benefits to the community in tsetse-infested areas.
- ◆ To develop and evaluate cost effective measures that take into account environmental and land use issue in the different agro-ecological zones infested by tsetse.
- ◆ To determine impact and cost of the disease on livestock productivity.
- ◆ To disseminate proven and appropriate technologies to farmers and extension staff.

#### Relevance of TRC TO EMMC

TRC is probably the key stakeholder that should be tasked with the responsibility of monitoring and management of environmental impacts that would favour the reinvasion of tsetse in the farming system.

- ◆ It can be a source of secondary data for background and history of tsetse control and dynamism.

- ◆ TRC researcher has been involved in land use and environmental studies in tsetse areas e.g. western Kenya; Lambwe valley and Busia.
- ◆ TRC has an institution base, facilities and staff.

They are already on the ground with ongoing activities

#### **4.4 Agricultural Information Resource Centre (AIRC)**

AIRC commonly known as Agricultural Information Centre (AIC) is part of the Ministry of Agriculture. It was started in 1966 when a small unit was established at the National Agricultural Research Laboratories (NARL/KARI), Kabete in Nairobi. AIRC services were commercialised and are now provided at the Ministry of Agriculture but also at other governmental departments, commercial companies, international organisations, non-governmental organisations and others at commercial rates.

##### *4.4.1 Mandate*

AIRC is mandated to provide agricultural information through the mass media to farmers, extension staff and other interested parties and to provide training in extension and management skills to extension workers.

##### *4.4.2 Objectives*

- ◆ Enhance Kenya's farmers' ability to increase agricultural output through more effective information and training.
- ◆ Improve extension and management skills of extension workers in ministry departments and other organisation and training materials.
- ◆ Improve the overall quality of agricultural information and training through close collaboration with other development.
- ◆ Generate financial resources to support its operations and programmes and to become financially sustainable.

##### *4.4.3 Services offered*

- ◆ Radio Services
- ◆ Video services
- ◆ Training Services
- ◆ Printing and publications
- ◆ Documentation Services
- ◆ Library Services.



#### **4.4.4 Relevance of AIRC to FITCA-EMMC**

The objectives of AIRC are relevant to the FITCA-EMMC goal of promoting sustainable rural development in western Kenya where extension service is needed to promote agricultural production. The status of tsetse control and promotion of tools and technologies for monitoring and managing environment in FITCA area can be disseminated through AIRC. AIRC can also take the role of developing and disseminating public awareness materials and also of creating an information exchange network

### **4.5 Kenya Forestry Research Institute (KEFRI)**

#### *4.5.1 Mandate*

- ◆ Conduct Research in forestry
- ◆ Co-operate with other research bodies within and outside Kenya carrying out similar research
- ◆ Liaise with other organisations and institutions of higher learning in training and on matters of forestry research
- ◆ Disseminate research finding.

#### *4.5.2 Mission:*

To enhance the social and economic welfare of Kenyans through user oriented research for sustainable development of forest and allied natural resources.

#### *4.5.3 Objectives:*

- ◆ To generate technologies for farm forestry, natural forests drylands forestry and forest plantations.
- ◆ To strengthen research capacity
- ◆ To document and disseminate scientific information.

#### *4.5.4 Research and Service Programmes*

KEFRI's research and development initiatives are implemented through four-core research programmes supported by a service programme.

- ◆ Farm forestry
- ◆ Natural forests.
- ◆ Dry land forests
- ◆ Plantation Forests.

Service program aims at facilitating efficient communication and promoting application of research findings among research, stakeholders and partners. Its activities are implemented by the following sections: -

- ◆ Information Dissemination and Public Relations
- ◆ Kenya Forestry Tree Seed Centre
- ◆ Social Forestry Training Centre
- ◆ Wood and seedling production

- ◆ Forest product processing and marketing
- ◆ Consultancy services
- ◆ Research and management liaison
- ◆ Donor liaison

#### 4.5.5 *Relevance to FITCA-EMMC*

KEFRI is a key stakeholder in environmental monitoring and management in FITCA area. The deforestation due to high demand for firewood for curing tobacco is a good entry point of establishing collaboration between FITCA EMMC, the Farmer and Private sector (BAT and Mastermind tobacco companies). This organisation is also operating in Kenya FITCA area.

## 4.6 **Centre For Health Application of Aerospace Related Technologies (CHAART)**

### 4.6.1 *Mandate*

Consult with investigators on variety of scientific issues affecting successful landscape epidemiology. In addition offer investigators technical consultation, data acquisition, image processing and analysis, data base development field support spatial statistics and modelling.

### 4.6.2 *Objective in relation to environment*

CHAART is involved in research applications, education, and dissemination of wide range of unique aerospace technologies e.g. remote sensing, GIS, GPS, computer modelling and their application to human health related issues. The outcome of this approach is a better understanding of relationship between health and environment. Increased rate of environmental changes has altered pattern for human health at community, regional and global scale. Remote sensing and GIS technologies are used to describe local and landscape features that influence prevalence of disease.

### 4.6.3 *Activities within Kenya*

Yellow Fever centres for Disease control and prevention are using Remote sensing to study the reservoir habitat of organisms causing yellow fever in Western Kenya)

Remote Sensing for monitoring Malaria in Kenya affiliated to ICIPE

### 4.6.4 *CHAART Relevance to FITCA-EMMC*

FITCA EMMC can facilitate the establishment of collaboration between CHAART and KETRI to enhance the capacity for surveillance of Trypanosomosis in western Kenya by using their already established methodologies



## **4.7 The National Museums of Kenya (NMK)**

### **4.7.1 Mission**

NMK's mission is to collect, document, preserve, study and promote Kenya's past and present cultural and natural heritage and enhance knowledge, appreciation, respect, management and use of those resources for the benefit of Kenya and the world.

### **4.7.2 NMK Centre for biodiversity**

#### **Mandate**

NMK-CFD conducts research, monitoring, training and education aimed at conserving Kenya's biological resources across plant and animal kingdoms. Education and training related to biodiversity is a major part of museum activities. CFD has also an obligation of biodiversity conservation by developing a research and action programme that will gather, store, analyse and disseminate the biodiversity information for sustainable use of biological resources.

#### **CFB Specific objectives**

- ◆ Keep countrywide inventory of key component of biodiversity, selected for their economic or ecological importance. This is achieved through collaboration with research institutions, researchers and the public.
- ◆ Develop capacity to analyse biological data to facilitate identification of key sites of biological interest within Kenya.
- ◆ Establish and develop permanent sampling plots in order to identify and monitor activities, which have impacts on biodiversity.
- ◆ Use taxonomic and other field based knowledge to study selected organisms and their biological environment in order to advise on the formulation effective and sustainable conservation policy.
- ◆ Storage of biological materials.
- ◆ Document traditional uses of biological diversity and develop collaborative research quantifying the environmental social and economic impacts of alternative method of land use.
- ◆ Promote public awareness about biodiversity issues.
- ◆ Develop training program that increase capacity to provide appropriate technical inputs for improvement of biodiversity conservation.

### **4.7.3 Relevance of NMK-CFB to FITCA EMMC**

- ◆ In developing a biodiversity inventory for FITCA areas.
- ◆ Possible establishment of permanent sampling plot to monitor impact of land use changes.
- ◆ Advise on effective and sustainable conservation policies for FITCA areas.
- ◆ Public awareness through training etc in biodiversity issues.
- ◆ NMK has an institutional base, staff and facilities.
- ◆ NMK can also assess changes on bio-diversity and other natural resource

## **4.8 Kenya Wildlife Services (KWS)**

### **4.8.1 Mandate**

Hold trust on behalf of government of Kenya, the biodiversity represented by its extra-ordinary variety of animals, plants and ecosystems ranging from coral reef to alpine moorland and from deserts to forests. Special emphasis is given to conservation of large mammal found in few other places on earth.

### **4.8.2 Objectives**

- ◆ To maintain and develop a viable conservation area system, ensuring a representative and sustainable sample biodiversity is protected
- ◆ To build partnership to conserve biodiversity and ensure that custodians benefit
- ◆ Lead role in developing sustainable nature tourism and maximise economic benefit to nation and minimise negative environmental impacts.

### **4.8.3 Relevance of KWS to FITCA – EMMC**

- ◆ Provide expertise and personnel to take biodiversity inventory for EMMC, which can be monitored to detect changes in the environment. Wildlife provides food for the tsetse population and therefore understanding the dynamics of wildlife fauna will contribute towards improved management of livestock and human population and land use practices. The population of reptiles such as agama lizards and snakes have been shown to provide favourite bloods meal for tsetse. The management of protected areas such as Ruma National Park should be reviewed to control the increase of tsetse population due to bush encroachment



## **4.9 Forest Action Network (FAN)**

### **4.9.1 Mandate**

A network organisation under umbrella of forests trees and people (FTPP). The network generates and shares information on sustainable resource management. FAN involves all stakeholders in making decision on the management of natural resource especially tree and forests.

### **4.9.2 Objectives**

- ◆ Facilitate the participation of local communities and other interested parties in implementing of Kenya forestry master plan.
- ◆ Co-ordination of meeting on community forest and land tenure issues to enhance interaction between researcher, policy makers, NGOs and local communities.
- ◆ Working closely with Kenya government to develop innovative ways if working with communities living close to forests.
- ◆ Production of newsletter on East African natural resource management activities at community level.
- ◆ Dissemination of information through publication and media programs.

### **4.9.3 Relevance of FAN to EMMC**

FAN can collaborate with KARI TRC and KEFRI to monitor the changes in watershed areas and in the selection of suitable trees for re-a forestation of degraded lands. EMMC can use the FAN networks to disseminate information on the relationship of vegetation cover/ land-use changes and the tsetse population; it can also assist in information dissemination through publications and media. However more information is required to ascertain the organisational capacity to achieve its stated objectives.

## **4.10 East Africa Environmental Network (EAEN)**

### **4.10.1 Mandate**

The Eastern Africa regional committee of the world conservation union (IUCN) formed EAEN in line with the recommendation of international workshop organised in mid September 1990. Its mandate is to facilitate sharing of information, experiences and resources for the achievement of peace, food security, poverty alleviation, social-economic development and healthy environment. EAEN promotes research for acquisition and dissemination of additional relevant information. EAEN serves as a cohesive force in dealing with environmental conservation issues of local regional and global concern.

### **4.10.2 Objectives**

- ◆ To increase and intensify public awareness on environmental and development issues in the Eastern African region.

- ◆ To promote environmental networking among concerned citizens, organisations and institutions within E.A.
- ◆ Recognise the outstanding contribution of committed environmental actors.
- ◆ To increase awareness of current and emerging environmental issues. (Publishes quarterly newsletter Njiwa – Resource for environmental education.)

#### 4.10.3 *Relevance of EAEN to FITCA-EMMC*

- ◆ EMMC can use the platform provided by EAEN to disseminate information on environmental issues related to agricultural farming systems in tsetse controlled areas by publishing articles in Njiwa newsletter.

## 4.11 SACRED AFRICA

### 4.11.1 *Vision*

To promote a productive, dignified and fulfilling life for rural farmers in Africa. It hopes to initiate diploma courses and degree courses in participatory community development, sustainable agriculture, agricultural biodiversity, organic agriculture, project management and self-help group development and management

### 4.11.2 *Mandate.*

Researching with farmers on way of improving agricultural productivity, nutrition, environmental quality and income. The research projects include; managing beneficial interaction for legume intercrop (MBILI), soil fertility improvement using natural and organic methods, development of bio-pesticides and cassava mosaic disease control.

### 4.11.3 *Mission.*

Sustained improvement of food security, social welfare and income of rural agricultural communities while promoting and enhancing the environment.

### 4.11.4 *Activities.*

- ◆ SACRED Africa is concerned in conservation of the environment and Agricultural biodiversity.
- ◆ Empowering community on the conservation of the environment through creation of awareness, environmental education, tree planting and establishment of community seed banks.

### 4.11.5 *Relevance of SACRED Africa to FITCA-EMMC*

SACRED – Africa is already operating within the FITCA project area and its head office is in Bungoma. It is therefore one of the key stakeholders in the NGO category which can take over some of the FITCA –EMMC activities.



#### **4.12 Universities.**

All the Universities both public and private, have almost similar mandates of research and training manpower tailored at solving problems related to environment, human and animal health, socio-economic and many other problems. They actually have a holistic approach in dealing with issues. In Kenya we have the following Public Universities; University of Nairobi, Maseno University, Egerton University, Jomo Kenyatta University of Science and Technology, Moi University and Kenyatta University while in private category, we have Catholic University, Day Star University, Nazarene University, United State International University (USIU) and Baraton University.

Though most of them are involved in the roles mentioned above, looking at the mandate and objectives of FITCA-EMMC, not all of them could take over the activities of FITCA-EMMC. This is due to the fact that environmental issues are not well spelt out or per se is not within their mandate. We have, Moi University and Kenyatta University as Faculty of Environmental Studies and at Egerton as Range management Department. However, in order to address these issues of FITCA-EMMC in a holistic way, University of Nairobi, department of Range management is better placed as it is largely involved in natural resource conservation and through collaboration with other departments of the University, it can very well take carry on with FITCA-EMMC activities if FITCA-EMMC communicate it objectives to the department. The department is willing to take over FITCA-EMMC.

##### **4.12.1 Relevance to FITCA-EMMC**

The Universities are better-placed institutions as they have expertise, institutionalised and long period of experience and information. They can take role in training of trainers, which is their major mandate as institutions. From the Veterinary Department, we have experts to train farmers on proper disposal of pest/insecticide containers. They can also play a major role in monitoring of the environmental status after Tsetse is controlled.

### **5.0 STAKEHOLDERS ANALYSIS IN FITCA DISTRICTS**

#### **5.1 Siaya District.**

FITCA has activities in Siaya District according to DVO and DLPO and has had some impact. In this district, people have adopted to keeping of poultry to provide income so that it can defray costs of treating livestock. The following groups were interviewed.

##### **5.1.1 GOK and Line Ministries**

Ministry of planning monitors development in the district through the office of DDO. All projects are cleared by the DDO or rejected together with other members of the District Development Committee (DDC). The Ministry of Livestock and Fisheries, through the office of the DVO and the DLPO (Mr.

D.O Etyang'), are crucial to FITCA projects. They have been involved in training of farmers and private animal health providers and have also been monitoring disease occurrence and prevalence. The Ministry of Agriculture through the department of agriculture, has been advising farmers on seeds, weeds and lately with FITCA- through RTDC (Rural Technical Development Centre)-that has come up with Ox-drawn implements for tillage, planting and weeding.

#### *5.1.2 Non Governmental Organization (NGOs)*

Siaya District has a few NGOs that operate towards alleviation of poverty among the rural people.

These NGOs include: -

CISS Charged with Agriculture improvement and micro-finance.

#### CARE Kenya

Improve agricultural production by giving farmers banana suckers.

Others include:

- ♦ Lake Basin Development Authority
- ♦ Anglican Church-
- ♦ Catholic Church
- ♦ Institute of Cultural Activities
- ♦ Small Community Oriented Development Program (SCODP)

#### Relevance to FITCA-EMMC

These NGOs are of importance to FITCA-EMMC in that they are already operating the project area and have organized farmer-groups. They are a good entry point for FITCA-EMMC and can act as a good avenue for information dissemination and collection and mobilizing the communities. However, to some, monitoring activities is not within their mandate and therefore require training on environmental management and analysis in order to carry on with the activities.

#### *5.1.3 Community Based Organisations (CBOs)*

These are the organizations that are run by the community. A phenomenon of FITCA as a result of crush pens is the emergence of CBOs that are attached to crush pens. In this regard, a few of the crush pen based CBOs include: -

- ♦ Ugoma crush pen with Benson Okoth as the contact person.
- ♦ Nyaluoyo crush pen with James Jama as Chairperson and contact person
- ♦ Nyayombe crush pen with Charles Oloo as the Chairperson and contact person.

The CBOs and particularly the areas owning crush pens need a lot of capacity building. Group dynamics are an area where sustainability of FITCA projects can rely on.

#### Relevance of CBOs to FITCA-EMMC

This are very important stakeholders as they are many in the FITCA area of operation and already organized and doing some activities with groups of farmers. All have been involved in FITCA activities and can be an important stakeholder in the area of collecting information from communities



about their perception on environmental issues and also good entry points to communities. All they require is capacity building and training.

#### *5.1.4 Private Entrepreneurs*

These are mainly Agrovets stockists and have been very useful in availing acaricides to livestock keepers. Dr. Bernard Oloo, a private vet has been engaged by FITCA on many occasions to try to translate the objectives of FITCA to the Community and CBOs. The existence of trained private animal health providers in the district has been of great significance to the local livestock and crop farmers. Two PAHP interviewed in Ukwala division showed a lot of willingness to collaborate with FITCA-EMMC and ensure that the availability of drugs and other related farm inputs are no longer a hindrance to farmers.

#### Relevance of Private entrepreneurs to FITCA-EMMC

Many have been in partnership with FITCA in their activities and are in contact with so many organized groups and individuals in the FITCA areas of operation and are very important stakeholder if FITCA-EMMC could use them in the collection of information from the communities about their perception of environmental issues and also in training on safe use and disposal of insecticides. They can also be relevant in information dissemination due to their efficiency.

#### *5.1.5 Institutions*

These are group of organizations that are either parastatals or international affiliated research centres.

In this category the institutions interviewed included: -

**ICRAF**-Agro forestry ,fodder crops, soil component and water harvesting. Contact/ focal person is based at Maseno,

**ICIPE**-Control of invasive plants like strigger weeds, disease control, pest control by encouraging planting of cover crops to control weeds and pests,

**KARI** in Kibos that produces crop varieties that are disease, pest tolerant and environmental friendly.

#### Relevance of Institutions to FITCA -EMMC

This actually are very important group of stakeholders both at national and local level because of their mandate and expertise. Many of them have activities on going in the project area and this is a good entry point for FITCA-EMMC in disseminating the information on environmental issues. These institutions have the expertise needed in monitoring and are well organised. Though, they require some facilitation due to their financial weaknesses. They could also be used in training of trainers on environmental issues.

## **5.2 Busia District**

Busia district is where FITCA has its offices. And the following groups were interviewed.

### 5.2.1 GOK and Line Ministries

Ministry of Health represented the government here through hospital at Alupe, which handles cases of Tsetse infection. The government institution is important to FITCA project as it can be used to monitor prevalence of infection among the people. Other Ministries involved included: - Ministry of livestock and fisheries through the department of veterinary Office, Ministry of Planning and Development through the office of the DDO who raised issues of deforestation, floods in Bundalangi which have caused displacement of people and a host of disease infection. Sugar plantations growing monoculture sugars and also litter the environment with harvested cane during transportation. Ministry of energy through Busia energy centre is promoting agro forestry and energy saving technology jikos and Ministry of Sports, Gender, culture and Social services through DSDO are involved in mobilising the community and training of -Community Development Assistants (CDAs).

### 5.2.2 Non Governmental Organisation (NGOs)

Busia district has several NGOs which include: -

**International Christian Support Fund (I.C.S.F)**, which is in construction of classes in schools and equipment in classrooms

**African Development and Emergency Organisation (ADEO)** charged with HIV/AIDS, education and give drugs to HIV patients.

**M.S.F- Medical Doctors with Frontiers** from Spain

**Action Aid** does provide shelter and clothing especially during flooding.

**World Vision** by which helps the community with clothing and shelter especially in flood areas.

**KORDP-Kenya Orphans Rural Development Projects** in schools and is giving clothes to HIV/AIDS orphans.

#### **Relevance to FITCA-EMMC**

The above NGOs have different activities from those of FITCA-EMMC, however they can play some important role in community mobilisation and information gathering and dissemination if in collaboration with FITCA-EMMC.

### 5. 2.3 Community Based Organizations (CBOs)

Busia District has registered a great number of CBOs (Crush Pens) established by FITCA, which open a ground for farmers' discussion and training in Tsetse and Ticks control. There are around eighty-nine crush pens were established but out of which about half are operational. An example of active CBO is;

**REFSO** (Rural Energy and Food Security Organisation), which is involved in promotion of cassava, sweet potatoes and conservation tillage.



Other CBOs include: -

SITEKO, which is involved in agro forestry project planting high value trees.

NELA Village in Butura Division, which is involved in agricultural activities.

Busia District has registered over 1200 local groups with the Ministry of sports, Gender, Culture and Social Services.

#### Relevance to FITCA-EEMMC

The above CBOs can play an important entry point for FICA-EMMC at community level, as they are organised groups with some activities going on. FITCA-EMMC can tap this and disseminate information relating to environment.

#### *5.2.4 Special Projects in the District*

There are a number of projects in the district: -

FITCA, which has projects in crop production through cassava bulking, animal draught power and in livestock production through the introduction of crush pens.

NALEP through the Ministry of agriculture is implementing crop and livestock extension services.

LVEMP a programme for cleaning the lake environment, checking evasive species e.g. water hyacinth and other environmental concerns that could be detrimental to lake Life.

CBNP (community Based Nutrient Programme) funded through DFID and is active in education on nutrition and dieting.

#### Relevance to FITCA-EMMC

These projects are important in that they are already on the ground and can play an important role o training the communities and information dissemination

### **5.3 Teso District**

Teso District is one of the successful FITCA districts. Some divisions in Teso have registered low numbers in Tsetse and improved livestock numbers. At the district we talked to various government department.

#### *5.3.1 GOK and Line Ministries*

Ministry of Planning and National Development, through the DDO Mr. Otieno, highlighted development in Teso district while Mr. Ipomai provided information on the Ministry of Agriculture and with special reference to the Crop Production Department.

The Ministry of Livestock and Fisheries through the District Livestock production officer was interviewed and gave very important points regarding the participation of this ministry in FITCA activities.

Ministry of Water Resources and Management, interviewed Mr. James Sikolia a senior inspector water engineer and who talked of more land going under cultivation and increased livestock keeping, which leads to soil erosion and reduced land cover especially in South Teso. This may have an indirect effect on both water quality and quantity

The Ministry of Environment, Natural Resources and Wildlife would be a great partner in terms of monitoring the effects of FITCA projects on the environment; we did not manage to get an officer to talk to.

#### 5.3.2. *Non Governmental Organizations (NGOs)*

The NGOs in Teso district include: -

##### World Vision

World Vision, which is, charged with supporting efforts in health in the whole of the district under the TCSP-Teso Child Survival Project. Activities include management of child illness, childhood malaria prevention, management of acute respiratory infection and control of HIV/AIDS. It targets children under five and women in the reproductive age.

##### ICSF (International Christian Support Fund)

ICSF in a few locations in Teso District and is charged with provision of health services to school children, building and provision of materials to school. It is targeting school children and teachers in the whole of the district.

##### Relevance to FITCA-EMMC

The above NGOs have activities that are not within the mandate of FITCA-EMMC; however, they can be good entry points for FITCA-EMMC to the communities as they have activities on going at the local level and are known to the people.

##### Tuienge na Tuiienge

This is a local NGO with activities in the whole of Teso District. Major target is the vulnerable community. Project name is Teso HIV/AIDS project and Teso District poverty. The activities include HIV/AIDS and poverty reduction through farming. This organization does this by collaborating with Ministry of Health, Ministry of Agriculture, Community and the Ministry of planning through DDO.

##### Relevance to FITCA-EMMC

This NGO is an important stakeholder in Teso district. By virtue of it operating in the whole of the district and working with communities, EMMC can use the organization in community mobilization, collection and delivering of any information to the communities. However the capacity to do any monitoring need to be enhanced



### **Heifer International**

Their main aim is to improve dairy production in Teso and work with groups of farmers where they provide the farmers with heifers, the farmers provide infrastructure, and after a successful reproductive period the heifer is given to the neighbor. This works as revolving fund. The GOK officers are supervisors. The Heifer project has just begun in Teso district.

*Other NGOs include **SACRED Africa** and **CESARD** that have ongoing projects in Teso District.*

### **Relevance of Heifer international**

The groups the organization is working with can be a good entry point for FITCA-EMMC in disseminating information regarding environmental management.

#### **5.3.3 Community Based Organisation (CBOs)**

These groups include: -

#### **Association for Better land Husbandry (ABLH)**

This is a local CBO with the objective of promoting food production in Amagoro and Amukura Divisions. Their activities mainly target farmers and include provision of technical contribution to increase food production and incomes among the local communities.

#### **Akukuranut Development Trust (ADT)**

This also is a CBO working in Chakol, Amukura and Amagoro Divisions targeting mainly women groups, youths, institutions and self help groups. Its activities include: -

- ◆ Creating investment opportunities for farmers
- ◆ Promoting farming practices
- ◆ Increase community income through access to credit
- ◆ Promote HIV/AIDS education
- ◆ Promotion and establishment of cottage industry/bee keeping.
- ◆ Assembling farm products giving them time utility.

#### **Chakol Joint Women Group**

This CBO is based at Adungosi Market. It targets members and their families.

Its objectives include: -

- ◆ Poverty eradication
- ◆ HIV/AIDS campaign

These objectives are realized through,

- ◆ Buying and selling of cereals
- ◆ HIV/AIDS sensitization activities

The CBO works in collaboration with the DDO, DSDO, DALEO and the Chamber of Commerce and Trade.

#### **Osuret Sub location CBO**

A CBO at Osuret sublocation of Teso district and has the objective of poverty eradication through improved farming by use of Oxen ploughing. The CBO works with the DDO, DSDO and DALEO. It is targeting members and their families.

#### **Kakemer Sub-location Development Initiative**

This CBO targets members and their families in poverty eradication by encouraging dairy keeping. It works in collaboration with DSDO, DDO and DALEO

#### **Makol Selp Help Group.**

This is a local CBO based in Malaba town targeting members and their families. Its mandate is poverty eradication through pig rearing. The CBO works with the DDO, DSDO and DALEO.

#### **Teso District Livestock Development Program.**

It was initially under the Ministry of Agriculture but now it is under the CBO. It provides up-graded animals to women groups as a revolving fund. Its activities include: -

- ◆ Bull service schemes, disease control activities. Tick and tsetse on individual bases and.
- ◆ Fodder production and development.

#### **Relevance of the above CBOs to FITCA-EMMC**

They are very important to FITCA-EMMC though none has activities directly linked to FITCA-EMMC mandate. They can assist in information collection and dissemination to the communities as they are already working with and the groups they have organized can be good entry points for FITCA-EMMC.

#### ***5.3.4 Private Entrepreneurs***

##### **Farmer Own Trading Limited.**

This is a limited company with the goal of enabling the uptake of technologies through provision of guaranteed market to contact farmers. It also offers training to farmers on entrepreneurship. The approach is have the farmers to own the company through buying of shares by promoting growing and selling of Soya beans, fruits, sunflowers, simsim, finger millet, green grams and other crops and offering market.

##### **British American Tobacco (B.A.T)**

This is a multinational company with interest in the tobacco. Trees have been harvested for tobacco curing and BAT is bulking and giving tree seedlings to farmers and following up to make sure they take care of them It gives farmers trees like *Eucalyptus* and *Gravellia*. The collection centres for tobacco are Angurai and Malakisi



### **Mastermind Kenya Limited**

It does a similar work like that of BAT but have less responsibility in ensuring that farmers grow trees for tobacco curing. It has its collection point at Amukura.

### **Kenya Agriculture Commodity Exchange (KACE)**

This is a private company with activities in Bungoma and Teso. It targets mainly small/large scale farmers, institutions, schools and hospitals. Objectives include providing farmers and target groups with services, tailor-made to fit their needs as buyers or sellers of agricultural produce.

Activities include,

- ◆ Linking buyers or sellers of agricultural commodities in Kenya, in regional and the international markets.
- ◆ Providing relevant and timely market information such as commodity prices for different markets.
- ◆ Ensuring that buyers or sellers get the best price the market can provide on the basis of demand and supply.
- ◆ Provides a buyer with reliable source of commodity and as seller you are assured that you will get paid for your commodities.
- ◆ Sourcing good dairy animals for farmers.

This is local, national and regional organization that reaches a large number of people.

The company is aware of FITCA and its activities and is willing to collaborate in monitoring activities if given the chance and facilitated.

### **Private Animal Health Providers**

In the district we managed to talk to the proprietor of Faith Clinic in Angurai, an Agroveter who stocks livestock acaricides and herbicides for crop production. The owner Jael Olima has been involved in FITCA projects and has been very useful to the project. Any monitoring work can be taken by the agroveter so long as its capacity to do so is enhanced. The PAHP is involved in,

- ◆ Crush pens where her role has been to mobilize the farmers and make monthly reports.
- ◆ In screening of animals for diseases in both Angurai and Kakapul locations.
- ◆ Was involved in Livestock census carried out in year 2000.

Jael has worked with,

- ◆ GOK,
- ◆ Community leaders, church and provincial administration,
- ◆ Crush pens,
- ◆ SACRED Africa,
- ◆ CBOs e.g. Katakwa Women Group,
- ◆ KETRI in monitoring of tsetse and introducing Orma and Boran breed of cattle that are resistant to nagana disease.

#### 5.3.5. Institutions

In this district very few institutions have one mandate or the other.

**KARI-TRC** in Alupe, which has Trypanosomosis research centre and has a hospital to treat and diagnose diseases related to Tsetse flies. This is a very useful institution as it can be relied on to monitor and assess the prevalence of tsetse related infections.

#### Relevance to FITCA-EMMC

The private entrepreneurs are very important stakeholders in that they are in contact with so many people and have been used by FITCA in training and mobilization of crush pen groups.

### 5.4 Bungoma District

Bungoma district has Tsetse problems in Bumala, Kanduyi and malakisi divisions. In these areas tsetse is well managed and livestock numbers have begun to rise. Has was reported by the DDO Bungoma District

#### 5.4.1 GOK and Line Ministries

**The Ministry of Planning and National Development:** was interviewed through the office of the DDO who gave valuable insights to what they do in terms of co-ordination of development activities in the area. The department is willing to undertake monitoring on social-economic status in Bungoma District. The **Ministry of Environment, Natural Resource and Wildlife** through the NEMA department. On interview was willing to undertake monitoring on effects of projects on the environment. on the other hand, the **Ministry of Agriculture and Rural development:** was a source of much information and would wish to be involved in any activity so long as its in line with its own objectives. **The Ministry of Livestock and Fisheries** through the DLPO has been involved in the FITCA activities in preparing work plan, budget and identifying the areas to carry on with the activities. They have held meetings with suppliers of farm chemicals and addressed the concerns of the chemicals on the environment.

#### 5.4.2 Non Governmental Organization (NGOs)

There are a number of NGOs in Bungoma District. Most of them charged with activities aimed at raising the standard of living of the local people. These include:

#### **SACRED-Africa (Sustainable Agriculture Centre for Research, Extension and Development).**

It was established in 1996 as an NGO and works with people to build a better Africa by increasing agricultural productivity and rural employment while protecting the environment. It has the mandate of facilitating community based sustainable agriculture, conservation of agricultural biodiversity and marketing. Its mission is sustained improvement of food security, social welfare and income of rural agricultural communities while protecting and enhancing the environment. Its vision is to achieve a productive, dignified and fulfilling life for rural farmers.

Its activities are mainly,

- ◆ Training communities on sustainable agriculture,



- ◆ Home based processing and marketing of farm produce,
- ◆ Institutional capacity building,
- ◆ Empowering the grass-roots people in taking sustainable control of their own resources,
- ◆ Training on group leadership and dynamics and
- ◆ Conservation of environment and Agriculture biodiversity.

This NGO operate in Bungoma district and also in Teso district. It also works in collaboration with, Moi University, ICRAF, ICIPE, IIRR, CTA, ODI, Churches and Government Ministries.

#### Relevance of SACRED Africa to FITCA-EMMC

SACRED – Africa is already operating within the FITCA project area and its head office is in Bungoma. It is therefore one of the key stakeholders in the NGO category which can take over some of the FITCA –EMMC activities. Since they are already involved in training of farmers, they can play an important role in training of farmers on any environmental issue.

#### Centre for Sustainable Agriculture and Rural Development (CESARD)

This NGO that covers six districts of western Kenya namely; Kakamega, Mumias, Bungoma, Busia and Teso. Mainly targeting women groups.

Its objectives among others are,

- ◆ Training the farmers on group dynamics
- ◆ Training the farmers on diversification in farming when addressing food security.
- ◆ To give loans to women groups

To achieve the above objectives, it carries out the following activities: -

- ◆ Creating market awareness to farmers
- ◆ Capacity building
- ◆ Community mobilisation
- ◆ Linking farmers with the market
- ◆ Creating markets for farmers

CESARD works in collaboration with, SACRED- Africa, Government Departments, CREADIS, KARI, Honey Care. The organisation knows FITCA and their objectives and is willing to undertake monitoring activities related to market and environmental changes if given the opportunity and facilitated to do so.

#### Relevance of CESARD to FITCA-EMMC

This is an important stakeholder at local level as it is already in the FITCA project area actually in six Districts of western Kenya., This organisation is involved in capacity building and community mobilization which is a very important aspect to FITCA-EMMC.

#### Community Research in Environment and Development Initiatives (CREADIS)

CREADIS was registered as a non-profit making NGO in Kenya in 2000 by the NGO co-ordinating board. It was founded as a multidisciplinary organisation to support an integrated program on poverty

alleviation in Western Kenya and other parts of Kenya. In 2003, it started to target on development of knowledge and skills among community members and incorporated the following approaches:

- ◆ Facilitation of community members to develop skills and ability to recognise and analyse the root causes of their strengths and to build on them and try out and come up with practices, technologies and methodologies that work best for them and adapt them, through research and training.
- ◆ Facilitation of community to develop and improve environmental management and food production skills to maximise land productivity of food and achieve health lifestyles, through food security and environmental management.
- ◆ Community health and nutrition.
- ◆ Micro-finance- helping community to increase incomes by accessing affordable credits.

Its mission is to promote people centred development in Kenya's rural poor and disadvantaged communities with an emphasis on participatory involvement, community capacity building, gender sensitivity, sound environmental management and sustainability. The vision CREADIS has is to properly mobilize communities and optimally utilise resources, creating sustainable livestock and alleviating poverty.

CREADIS has worked in collaboration with, GOK, KARI, ICRAF/KEFRI, Coady international institute of Canada, CBOs (and especially KIDEP-Kimilili Integrated Development Programme) and URWEP, NGOs, and private institutions.

#### Relevance to FITCA-EMMC

This organisation is a good stakeholder in organising and mobilising the communities and capacity building on environmental management. This is an important stakeholder in that it is already involved in activities relating to environmental management and sustainability, which is within FITCA-EMMC mandate.

#### Germany Development Service (GDS)

The is an NGO targeting the whole District. Their main activity is conservation of the environment and tree planting in the District.

#### Relevance of GDS to FITCA-EMMC

They are already involved in the activities of environmental conservation, which is key objective of EMMC. Therefore GDS is a very important stakeholder with planting trees as an entry point for FITCA-EMMC

#### Maendeleo ya Wanawake

This is a local NGO covering the whole of Bungoma District and its main activities are farming and livestock production. This can only carryout the community mobilization activities in the District.

#### Bungoma Family Development Program (BFDP)



This is a local NGO working in Bumula, Kandunyi, Sirisia, Webuye and Chwele Divisions of Bungoma District. Its main activities are, provision of medicine through Rural Health Unit at Mulanda, MCH/FP, and STD/HIV/AIDS through counseling. It is also involved in Micro-enterprise and sustainable Agriculture.

Relevance in FITCA-EMMC

This may carry out the activities of community mobilization and information collection and dissemination at local level

**Topical Africa Agro-forestry**

This is an NGO covering the whole of the District with its activities as,

- ◆ Conservation of the Environment through capacity building to farmers and community in the District
- ◆ A forestation programme-The organization targets hilly and degraded areas of the District
- ◆ They manage nursery seedlings in different stations

Relevance to FITCA-EMMC

It is an important stakeholder in the NGO group at local level to train on capacity building to community members and also doing some community mobilization.

*5.4.3 Community Based Organizations (CBOs)*

**Rural Energy Food Security Organization (REFSO)**

This is a CBO with main activity in agriculture (cassava multiplication for the farmers) and promoting soil fertility and agro-forestry. Also involved in bulking of orange-fleshed sweet potatoes. It covers the Kanduyi division of Bungoma district and also run the same projects in Teso districts.

Relevance to FITCA-EMMC

This is an important CBO due to the activities and closeness to farmers in Bungoma and Teso districts. It is doing some cassava multiplication for farmers and this can be a good entry point for EMMC for issues pertaining environmental management. The CBO can also play an important role in collecting any information from the community needed by FITCA-EEMMC.

**World Vision (Bunyala Family Development Project)**

This is a CBO with the following activities in Kimilili Division,

- ◆ Promotion of food security through provision of seeds to farmers, Horticultural seeds, sorghum and beans and
- ◆ Promotions of primary health care through extension of mobile clinics to the medically isolated areas.

Other CBOs include the following:-

**Ngona** women group charged with improved farming activities for improving standards of living for its members, **Simiche** self help group which works for improving their livelihoods especially after undergoing a training in the above field and **Weoya** women group that runs a micro-finance and farming activities to better the lives of its members. All of these are important in community mobilization, information gathering and dissemination if in collaboration with FITCA-EMMC.

#### 5.4.4 *Private Entrepreneurs*

These groups are charged with provision of agro vet products to the local people, veterinary services, providing tobacco seedlings to the farmers and marketing of subsequent produce. These include,

- Nomadic agrovet run by the director of SACRED Africa,
- Kenya Agriculture Commodity Exchange (KACE),
- British American Tobacco and
- Mastermind Kenya limited who have a large interest in the tobacco industry.

#### 5.4.. *Institution*

In this category, KARI is having a project in developing maize variety through Kakamega centre.

### 5.5 **Bondo District**

There are many activities in Bondo District by NGOs, Projects, CBOs, Government departments and private entrepreneurs all geared at elevating the poor standards of living by the local communities.

#### 5.5.1 *GOK and Line Ministries*

Through the ministry of agriculture we have extension officers who visit about three times a year. They are involved in training on crop and livestock production. The Agricultural officer has been involved with FITCA in the following activities: -

- ◆ Animal traction programme where officer have been involved in training farmers.
  - ◆ Cassava bulking. Officers have been involved in introducing and transfer of technology to farmers.
- They also offer supervision and extension services on the subject.

Ministry of Livestock and Fisheries through the department of livestock production gave the following as concerns in the District;

- ◆ Soils are infertile
- ◆ Rainfall is uneven within the seasons and varies year after year.
- ◆ Crop failure is high.
- ◆ Water shortages
- ◆ High poverty levels
- ◆ Most of the house holds are headed by widows and children due to HIV/AIDS

The lakeshore community depends on fishing while those away from the shore depend on grain production e.g. maize, sorghum, beans etc.

The major water source is river Yala. Other water sources are community water pans that are used by both animal and people. These are highly polluted and often dry up during the dry seasons.



Ministry of Environment, Natural Resources and Wildlife through forestry department is involved in tree planting in hilly areas, water catchment areas and degraded areas. They collaborate with NEMA, KEFRI, LVEMP and ICIPE.

## 5.2. *Non Governmental Organizations (NGOs)*

Bondo District has the following NGOs: -

### **Food Security Farmers Schools**

This is an initiative by FAO and is involved in improving farming through improved farming systems, agro forestry and organic farming. The group has identified the common interest groups and involved them through the following activities-Horticulture, Bee keeping, Sericulture. FSFS trains farmers groups on crop, livestock production and enterprises of their choice including fisheries. It is also involved in gender issues, HIV/AIDS and environmental management. Trained farmers are expected to be facilitators. Farmers get a host farmer whose farm is used for on-farm training. On-farm training is done for every stage of the enterprise, e.g. maize production; from land preparation to post harvesting procedures.

The aim of FSFS is to build on farmers farming skills through experiencing new technologies and reinforcing the skills the farmer already have. In Bondo, FSFS has 46 active groups.

FSFS works in collaboration with,

- ◆ FAO engaged in food security farmers schools (FSFS)
- ◆ Plan Kenya (Mendiany location)
- ◆ Action Aid
- ◆ Community Based Nutrition Program (CBNP)
- ◆ World Agro forestry through ICRAF
- ◆ Kenya Drought Technology

### Relevance to FITCA-EMMC

FSFS is a very important stakeholder in the NGO group as some of the activities of the organization are environmental management. It has organized groups active on the ground, which can be a very good entry point for EMMC. It can also take the role of training the communities on environmental issues and community mobilization. Through the already established collaborative links with other NGOs, dissemination of information can be facilitated.

### **Environmental Committee**

This organisation is charged with natural resources conservation and management. Their activities include,

- ◆ Planting trees in hilly and degraded areas
- ◆ Prevention of soil erosion
- ◆ Creating environmental awareness to the community through Chiefs Baraza

Its vision is to help the community to mobilise and optimally utilise their resources in a sustainable manner. The Environmental Committee can play an important role in community mobilisation

#### **Plan Kenya**

Plan Kenya (PK) activities have just began in Mediany division in Bondo district. It intends to use field school approach. Its aim is to provide education to children, however a hungry child cannot learn, so the attention is to improve food security through promotion of traditional food crops. It is also involved in community training on water sanitation and management through CBOs like Madieny community development project.

#### **Action Aid**

This organisation is in charge of engaging the poor to help in the eradication of poverty and its causes. Action Aid works with community groups. They engage them in prioritizing their enterprise so long as it is within Action Aid's vision and mission. Action Aid has used the following approach to achieve its objectives,

- ♦ Capacity building and training
- ♦ Support grants
- ♦ Linking groups to other collaborators and partners in development.
- ♦ Gender mainstreaming, a crosscutting issue within group.

Action Aid has involved the following groups,

GROUP NAME	ACTIVITY
USIGU CHILDREN TRUST	Child right activities
Mwangaza	Aids/HIV awareness and sericulture
Manjengo field school	Engaged in field school enterprise
Wananeye farmers school	"
B.A.M.A	Umbrella group for groups engaged in food security activities.
Crash pen	Tsetse control activities

#### Relevance of Action aid to FITCA-EMMC

This NGO is very important at local level in training and capacity building with entry point as farmer field schools. They are working with groups' of farmers and when this is tapped by EMMC dissemination and gathering of information from the communities can be made easy.

#### **Kenya Draught Technology**

The NGO is funded by FAO and headed by professor Kombotho of the University of Nairobi agriculture-engineering department. Its activities include training on low cost input farming



technology, i.e. using fallow cover crops, fertility improvers e.g. *dolicos*, use of rippers that allow planting without ploughing,

#### **Inter Diocesan Christian Community Services**

The organisation train communities through CBOs to come up with priority enterprises. Most CBO are involved in crop and livestock activities. The CBOs include,

- ◆ Ragengni CBO
- ◆ Hagonglo CBO
- ◆ Ochuogakowi

Its mission is to enable the community of the member diocese to achieve fullness of life and integrity through sustainable participatory and integrated community development program.

#### Relevance to EMMC

If the capacity relating to environmental issues of this organisation is enhanced, it can be an important stakeholder in training community members

#### **Bondo Fishermen Conservation Group (Bofico)**

This is a local NGO whose aim is to conserve fish, wildlife and ecosystem. Its activities,

- ◆ Training farmers/fishermen to use proper fishing nets and gears.
- ◆ Educate fishers to use proper fishing methods.
- ◆ Advising farmers to intensify on farming to reduce pressure on the lake.
- ◆ Organise meeting for member to build their capacity.

#### Relevance to EMMC

If the capacity relating to environmental issues of this organisation is enhanced, it can be an important stakeholder in training community members and information dissemination and gathering.

#### *5.5.3 Community Based Organisations (CBOs)*

##### **Nyakasumbi Self Help Group**

Mr. Malaki Obado , chairman fo the CBO was interviewed. The group was started in 1998 and has over 30 members both men and women, as a self help group. Youth help one another in farm work.

The group is located in Nyawita sub-location. Marand division. The group is involved in sericulture and apiculture projects and is located opposite Bondo Teacher's college.

The group is registered under the ministry of culture and social services

Its aims and objectives are,

- ◆ To create self employment to of school youth using locally available resources and skills,
- ◆ To develop and share the talents of each member for the benefit of all,
- ◆ To initiate sustainable development of the young people so as to improve living standards,
- ◆ To improve the food security situation in the community through farming and

- ◆ To practice and promote commercial insects farming (sericulture and apiculture).

The group tries to achieve its objectives through the following activities,

- ◆ Apiculture, sericulture, horticulture both production and processing,
- ◆ Support Nyakasumbi crush pen where members are involved in poultry, growing of disease resistance cassava and sorghum,
- ◆ Run a tree nursery and
- ◆ Training of other up coming groups on sericulture and apiculture.

Nyakasumbi has the following supporters and collaborator,

- ◆ KARI provided bee hives and training on bee keeping
- ◆ NALEP has been using their farms as focal point for agro forestry. It has also been introducing other groups to learn.
- ◆ APPROTECH supplied oil-processing machinery.
- ◆ FAO has trained a member as food security farmers school facilitator and another member as pool facilitator of sericulture.
- ◆ ACTION AID bridges other groups to Nyakasumbi in order that they can train example are Mwangaza CBO, Gotramogi environmental group, and B.A.M.A groups, Wakulima.
- ◆ CARE FOR THE EARTH CBO exchange programs in crops and fruits production.
- ◆ Nyakasumbi advocates for minimal use of chemicals spraying, sericulture and apiculture thrives better without chemicals.
- ◆ Active in promotion of agroforestry to favor sericulture and bee keeping.

#### **Nduwa Crash Pen**

It is involved in tsetse control activities through FITCA; it also has a disease tolerant cassava and sorghum group farm. Poultry activities are at individual capacity.

This crush pen gets support from, **GOK** through the Ministry of Agriculture – extension officers who visit about three times a year. They offer training in crop and livestock production.

#### **5.5.4 Private Enterprises**

Bondo district has a number of private enterprises that are involved in both crop and livestock production. Agro vets that stock a lot of drugs that treat livestock disease and those afflicting crops.

#### **5.5.5 Institutions**

The following institutions are carrying out various projects in Bondo District,

- ◆ KARI provided bee hives and training on bee keeping,
- ◆ NALEP has been using their farms as focal point for agro forestry. It has also been introducing other groups to learn,
- ◆ APPROTECH supplied oil-processing machinery,
- ◆ FAO has trained member as food security farmers school facilitator and another member as pool facilitator of sericulture,



- ♦ ACTION AID Bridges other groups to Nyakasumbi in order that they can train example are Mwangaza CBO, Gotramogi environmental group, and B.A.M.A groups and
- ♦ Care For The Earth CBO exchange programs in crops and fruits production.

#### *5.5.6 Projects*

In the district a number of projects are ongoing and have mandates of improving the livelihoods of the local community. These include:

##### **Community Based Nutrition Program (CBNP)**

This project is being funded by Danida and is implemented by the Ministry of Sports, Gender, Culture and Social services and the Ministry of agriculture. Its objectives are to train farmers who will in turn train other farmers. The approach the project uses is to mobilize communities into village development committees. The Village Development Committee VDC set up priorities through participatory rural appraisal, then develop appraisals through a simple set format with technical advice of DANIDA.

##### **Lake Victoria Environmental Management Programme (LVEMP)**

Head quarter is in Kisumu and the project is charged with the duty of monitoring environmental health status of the lake and report and mitigates any pollution in the lake.

##### **National Agricultural and Livestock Extension Program (NALEP).**

This project is funded by SIDA and is being implemented by the Ministry of Agriculture and livestock through the district agricultural officer and district livestock production officer. This is a countrywide program.

The approach being used is to change the prior extension top – bottom approach to bottom – up approach. PRA are conducted by multidisciplinary team and stakeholders e.g. NGOs, Micro financiers etc. Attention is given to the focal point, which is approximately 400 ha.

## **6.0 APPENDICES**

### **6.1 Itinerary Of Events**

11<sup>th</sup> Nov 2003 – Meeting with Bernard Toutain to be briefed on the terms of reference and expectation of FITCA-EMMC

12<sup>th</sup> –14<sup>th</sup> Nov 2003- visited various Institutions and organization websites and downloading of important data.

17<sup>th</sup> Nov 2003 visited UNEP in Gigiri library to retrieve information on collaborators and interested Organizations and Institutions on Environment.

18<sup>th</sup> Nov 2003 visited world agroforestry center interviewed Mutegi Kinyua

19<sup>th</sup> Nov 2003 Idd Holiday

20<sup>th</sup> Nov 2003 Visited Regional Center for Mapping of Resources for Development- Kasarani, interviewed Mr. Shem Chege Kivugo GIS teacher.

21<sup>st</sup> Nov 2003 visited Kenya Agricultural Research Institute Library. Retrieving information on KARI activities and other institutions.

24<sup>th</sup> Nov 2003 visited Kenya Soil Surveys in the morning and interviewed Mr Simon N. Wambugu soil scientist.

In the afternoon, visited Agricultural Information Centre and interviewed Mr Julius Kiriga public relations and marketing Director.

26<sup>th</sup> Nov 2003 visited National Environment and Management Authority (NEMA) and interviewed Mr Munene personal assistant to the Director.

27<sup>th</sup> Nov 2003 visited Department of Resource Survey and Remote Sensing (DRSRS) and interviewed Lucy Gitau a publisher.

28<sup>th</sup> Nov 2003 at Uthiru browsing and downloading information from web of various organization dealing with Environmental matters.

1<sup>st</sup> and 2<sup>nd</sup> data compiling and keying at Kabete campus

3<sup>rd</sup> Dec 2003 visited Museums of Kenya and interviewed Education Officer-Nairobi Botanical garden.

4<sup>th</sup> Dec. 2003 Morning at KARI and in the afternoon interview with Mr. Joseph Maitima.



5<sup>th</sup> Dec.2003 KARI Trypanosomosis Research Centre and interviewed Grace Muriuki a research on environment.

6<sup>th</sup> Dec.2003 at Kabete campus, developing data collection sheets in preparation to leaving for the field. Dr Njoka in the afternoon interviewed Dr. Bawer, FITCA project manager, Dr Francis Oloo FITCA liaison officer and Bernard Toutain FITCA-EMMC coordinator.

7<sup>th</sup> Dec.2003 at 1200hrs left for Busia, spent at Busia town.

8<sup>th</sup> Dec. 2003 visited FITCA office and interviewed Walter Ong'eng'a and at 1100hrs left for Bondo and Siaya. One team of two was left at Siaya and the other of two proceeded to Bondo. At Bondo by 0130hrs the group interviewed DAO and DLPO while the group at Siaya managed to interview DAO and DVO.

Dr. Njoka was left to handle Busia District and in the morning interviewed DVO Mr Murekevu, DAO Mr Bernard Ondanje and DDO Mr. Amos Njaga. In the afternoon, he interviewed DEO Mr. Stanely Abasa and DSDO Mr. Peter Makhoha.

9<sup>th</sup> Dec. 2003 In Siaya, team interviewed DLPO and DDO in the morning while in the afternoon they went to the villages to meet crush pen groups with Winfred. The group at Bondo, divided so that one person went to meet crush pen groups and Action aid while the other interviewed DDO and DVO. The group later traveled back to Busia and spent the night there. On the other end, Dr. Njoka interviewed Dr Joseph Salo of KETRI, DSDO Peter Ogulla, and George Walter Ombai Community crush pen

10<sup>th</sup> Dec.2003 in the morning group traveled to Amagoro in Teso District and interviewed DLPO, District Liaison officer Mr. Ipomae, DDO, DWO, and Private Animal health provider Jael Olima at Angurai Division. At 0500hrs the group proceeded to Bungoma District.

11<sup>th</sup> Dec.2003 a group of two visited the Ministry of agriculture and interviewed DLPO and District Mechanization Extension Officer. The other group interviewed DDO, DEO and DSDO while in the afternoon the group visited SACRED Africa, Kenya Agricultural Commodity Exchange (KACE) and interviewed Mr. Albert Wesonga the Manager. The group also visited CREADIS and interviewed Gladys Nabiswa the executive Director.

12<sup>th</sup> Dec.2003 traveled back to Nairobi.

13<sup>th</sup> Dec.2003 compiling the report at Kabete

14<sup>th</sup> Dec.2003 Rest day.

15<sup>th</sup> –17<sup>th</sup> Dec.2003 compiling and typing the report at Kabete Campus.

18<sup>th</sup> Dec.2003 editing the draft.



## 6.2 Annex

*List of Individuals/NGOs, CBOs, and other organizations contacted.*

Name of organisation	Address/ Contact person	Type of organisation	Area of operation
RCMRD	Mr. Kivugi for <i>The Director General</i> Regional Center for Mapping of Resource for Development (RCMRD) P.O. Box 18118-00500, Nairobi, Kenya. Tel. +254-2-803320/2/9, 80313 Email: RCMRD@RCMRD.ORG Website: <a href="http://www.rcmr.org">http://www.rcmr.org</a>	Regional Inter governmental organisation	Member Countries
ICIPE-EHD	Box 30772 Nairobi Tel: 020-802501/802503 Email: <a href="mailto:icipe@icipe.org">icipe@icipe.org</a>	International Institute	Internationally with offices in Nairobi Kenya
LUCID		Project	Western Kenya
PLEC	Edward Mare Muya, <a href="mailto:kss@iconnect.co.ke">kss@iconnect.co.ke</a> or Dr Romano M. Kiome, <a href="mailto:kiome@arcc.or.ke">kiome@arcc.or.ke</a>	Project	
WAC (ICRAF)	Box 30677 Nairobi Bashir Jama, <a href="mailto:b.jama@cgiar.org">b.jama@cgiar.org</a>	International Organisation	
PAAT	Website: Programme Against African Trypanosomiasis (PAAT).htm Food and Agriculture Organisation (FAO) Agriculture Department Animal Production and Health Division	Programme	

	FAO, Head office, Rome		
FEWS NET	Through FAO Headquarters Box 30470 Tel: 020-725128/725069 Email: fao-ken@field.fao.org	Regional Organisation	Eastern Africa Region
AU-IBAR	AU/IBAR P. O. Box 30786, Nairobi, Kenya Tel: (254-2) 251517/226651 334550/318877/90/92 Fax: (254-2) 226565/332046 E-mail: coordination.pace@au-ibar.org	Regional Organisation	African continent
ILRI	Dr.Maitima- Ecologist, FITCA- EMMC ILRI.. Telephone 630743 Nairobi. <a href="http://www.cgiar.org/ilri/">http://www.cgiar.org/ilri/</a>	International Organisation	
IGAD		Regional Organisation	Eastern African Counries

NEMA	The Director National Environment Management Authority (NEMA) P.O Box 67839, Nairobi, Kenya Tel. +254-2-609013/27, Fax +254-2-608997 Email: dgnema@swiftkenya.com	GOK	Kenya
DRSRS	The Director Department of Resource	GOK	Kenya



	<p>Surveys and Remote Sensing</p> <p>Ministry of Environment Natural Resources and Wildlife</p> <p>P.O Box 47146</p> <p>Tel. +254-2-609013/27</p> <p>Fax +254-2-609705</p> <p>Nairobi, Kenya</p>		
KARI	<p>Muguga National Agriculture research Centre,</p> <p>Box 30148 Nairobi</p> <p>Tel. 066-32880</p>	GOK	Kenya
KARI-Kenya Soil Survey	<p>DR. P.T GICHERU</p> <p>P.O BOX 14733, NAIROBI.</p> <p>TEL.443376/440903,</p> <p>FAX 443376</p> <p>EMAIL</p> <p>kss@iconet.co.ke.</p> <p>Karikabete@africaonline.co.ke</p>	GOK	Kenya
KARI-TRC	<p>KARI-TRC</p> <p>Grace Muriuki- Research scientist -Environment</p> <p>P.O. box 066 32960-4</p> <p>email</p> <p>ketri@africaonline.co.ke</p> <p>gymuriuki@yahoo.com</p>		Kenya
KEFRI	<p>Muguga Forestry Research Centre</p> <p>P.O Box 20412, Nairobi</p> <p>Tel: 254-154-32891/2/3</p> <p>Fax: 254-154-32844</p> <p>Email: kefri@arcc.or.ke</p> <p>sftc@kefri.org</p>	Institution	Kenya

	<p>Maseno Regional Forestry Research Centre P.O Box 25199, Kisumu Tel: 254-35-51245, 51164 Email: afresmaseno@africaonline.or.ke</p>		
AIRC	<p>Julius Kiriga for The director Agricultural information Resource Centre P.O Box 66730 Tel: +254-20-4442240 Fax: +254-20-444467 Email: director@agricinfor.go.ke</p>	Private	
National Museums of Kenya-Centre for Bio diversity	<p>Director General. National Museums of Kenya P.O box 40658, Nairobi. Tel 254 -- 20- 741424 Email biodiversity@att.gn.apc.org</p>	GOK	
KWS	<p>Box 40241 Nairobi Tel: 020-501081/506671 Langa'ta road Email: kws@kws.org</p>	GOK	
FAN	<p>FAN -- DOMINIC WALUBENGO P.O BOX 21428, NAIROBI. TEL +254 -- 20 -- 7718398 FAX +254 - 20 - 7718398</p>	National	



	EMAIL: fan@fanworld.org		
EAEN	Director, Mr Chumwa P.O Box 555 00516, Uhuru Gardens, Nairobi Email: eaen@onlinekenya.com Tel: +254-20-601064	Regional	

International Christian Service (ICS)	Hellen Makanda in charge of agriculture Box 599 Busia (k)	International NGO	District wide
World Vision (TCSP) and Bunyala family Development Project.	Box 31 Amagoro	International NGO	In Teso District and Kimili division of Bungoma District
Association for Better Land Husbandry (ABLH)	Fredlick Mugo Field Manager Box 601 Village market Tel 020-522883	Local NGO	Amagoro Amukura division
Farming in Tsetse Controlled areas (FITCA)	Winfred Olubai Box 261 Busia (K)	Regional Project	District wide
Akukuranut Development Trust (ADT )	Box 50 Adungosi via Busia Tel 00677-6452242	Local NGO	Chakol, Amagoro, Amukura
SACRED Africa	Dr. Mukhwana Box 2248 Bungoma Tel; 254-337-30788/30789 0733-870740	Local NGO	District wide Bungoma and Teso
DEO (NEMA)	DO 2 Mr. Chepkango R. Tel. 057-5200058 (Bondo), Mr. Omondi Were (Siaya) Mr. Stanely Abasa Tel. 055-22322/ 0721-274413 (Busia) Dancan Osale Tel. 0337-30518 (Bungoma)	GOK	All districts
CDA	DSDO Bondo	GOK	In all 5 divisions of Bondo
DWO	Mr. Josephat Omenda (Teso) Mr Peter Okeyo Box 43 Tel. 057-520094 (Bondo)	GOK	In all 5 Districts
DLPO	Mr. Ondigi (Bondo), Mr.	GOK	In all 5 districts

	John Ndege (Siaya), Mr. Ohore Raphael (Teso), Mr. Silvester Wafula Tel 0337- 20156 (Bungoma)		
DAO	Teso-Mr. Shem Ipomae, Bungoma- Siaya-Mr peter Isigi, Busia- Bondo-Mr Moses Nyamweya	GOK	In all 5 districts
DVO	Siaya-Mr.Fredlick Onyango, Busia- Dr. Murekevu, Bondo- Bungoma- Teso-	GOK	In all 5 districts
KACE	Mr. Albert Wesonga (Manager) Box 681 Tel.0337-30955/56/57 Mob. 0733-473723. Email kacebgm@africaonline.co.ke	Private	East Africa
CESARD	Mr. Musiko Vincent (project manager) Tel. 0337-585648/ 0733-585650	Regional NGO	In Teso Bungoma Kakamega mumias Busia
IDCCS	Rose Oinde Co-ordinator Box 240, Tel. 057-520415 Bondo	International NGO	In Teso and Siaya
Kenya Draught Technology	Prof Kombotho, University of Nairobi, Agricultural Engineering	Local NGO	Whole of Bondo district
Nyakasumbi	Malaki Obado Box 72 Bondo	CBO	Marandi Division of Bondo district
Plan Kenya		Local NGO	Madany Division of Bondo District
Action aid	George Oginga (Facilitator) Tel. 0733-699941 Box 356 Usengo	Regional NGO	Usigu division of Bondo District
COSOFAD	Through ICRAF	Regional Umbrella consortium	Maseno
Bungoma Development Consortium	Gladys Nabiswa, Dr Mukhwana of SACRED	Consortium	Bungoma



	Africa		
CREADIS	Gladys Nabiswa Executive Director	Local NGO	Whole of Bungoma District
Bungoma Family life Development Program	Through DLPO office Bungoma	Local NGO	Bumula, Sirisia, cntrol Bungoma webuye
Teso Community Based Livestock Development Program	Through DLPO Teso Box 81 Tel.0337-54081/0733-640481	CBO	Whole of Teso District
Heifer International	Through Teso DLPO	Regional NGO	Teso and Siaya
Farmers own Trading limited	Jim Cheatile Box 39042, Tel. 522883 village market Email. Ablh@wananchi.com	Private Enterprise	Teso amagoro Division
REFSO	Mr. Onongo-0722-688765/ Tel 0337-22333	Regional NGO	Teso, and Bungoma districts
C.C.S	Mr. Kasiba Anglican church Diocesan office Kakamega	Local NGO	Teso, Bungoma and Busia Districts
Mastermind	Collection centre at Amukura	International Company	Amukura and Angurai Divisions of Teso District
B.A.T	Collection Centre, Malakisi Tel. 0337-30960/20403/0733-938214	International Company	Angurai in Teso and Malakisi in Bungoma
I.C.S.F		International NGO	Busia District
ADEO		Local NGO	Busia
MSF		Local NGO	Busia
NELA		CBO	Busia
SITEKO		Community group	Busia
KORDP			Busia
ALAM	Through Rarienda Primary school Bondo	CBO	Rarienda Division in Bondo District
BAMA	Raila Through Actiona Aid Office usigu George Oginga Tel. 0733-699941	Umbrella CBO	Usigu lovation
Tujenge na Tujijenge	Box 215 Kamuriai-Malaba. Tel. 0337-542299	Local NGO	The whole of Teso District
Makol Self help group	Box 101 Kamuriai	CBO	Malaba Town
Chakol Joint Women	Box 57 Andungosi	CBO	Andungosi

group			
Kakamer SUB/LOC. Development Initiative	Box 2 Malakisi	CBO	Malakisi Sublocation

*Private Companies*

Name of company	Product/service/activity	Use
Monsanto/Bayer	Round up	Conservation tillage
CEVA Oduor J.J 0733-603418 Animal health Kenya Ltd Box 13705 Nairobi	Animal health drugs	Disease control and treatment in livestock
Highchem pharmaceuticals	Vaccines for poultry and other veterinary drugs	Disease and pest control
Coopers Technical Department Box 40596-00100 GPO Nairobi Tel. 020-580612 Email: technicalsupport@coopers.co.ke	Pumps and Tsetse control chemicals	Tsetse control at crush pens
Mimea Mifugo P.O Box 55056 Tel. 020-557304, Email: mimeamifugo@net2000ke.com	Supply of pumps	Spraying off animals
Nor brook Africa EPZ ltd P.O. Box 404 Athi River Tel. 0150-22567/22611	Manufacturers of Livestock medicine	Treating of livestock diseases
Vestergaards Thomas Hanser, Tel: 0733-513227	Nets for Tsetse control in zero grazing units	For protection against Tsetse
Bayer (South African Company)	Tsetse control insecticides	Control of Tsetse
Tsecon consultants Caren A. Ouma P.o.Box 10482-00100 Nairobi Tel: 0733-908923	Testing new tools, training, supply tsetse control inputs and testing of new tools of tsetse control	Tsetse control