

MALAWI EBAFOS Ongoing Projects Summaries

Project 1: *Integrated Landscape Management for Food Security Enhancement: GVH Changali, Mangochi District by Leadership for Environment and Development Southern and Eastern Africa (LEAD SEA)*

Project summary

This landscape restoration project is seeking to enhance food security by addressing the problem of soil and water degradation, a major problem in the project area, the GVH community of Mangochi district. This is due to increased deforestation in Namadidi mountain slopes, the catchment of Ulungwi River that has resulted in increased erosion and decreasing river flows, making river Ulungwi seasonal. The mountain slopes is used for agriculture and settlements, while waters of the Ulungwi River are used for irrigation and domestic use. The affected river and mountain ecosystems have resulted in low production of food crops and fruits. Project involves training and demonstration activities on natural resources management, soil and water conservation using conservation agriculture (CA) techniques such as agroforestry and climate smart irrigation. From these activities, it is projected that yields will increase from 900kg/ha to 1,311kg/ha, food deficit will be reduced from 5 to 2months, all farmers in the project area will adopt conservation farming techniques, rehabilitation of catchment will result in restoration of perennial flow in Ulungwi river, and rehabilitation and adoption of CA techniques including agroforestry will result in increased forest cover, reduced erosion and consequently, reduced siltation of the river and watering holes. Indirectly, the project is projected to benefit up to 100 families.

Objectives

The overall goal of the project is to build community and landscape capacity to produce diversified food through ecosystem based approaches in a climate change context

Specific objectives are:

To build capacity of community groups such as Village Natural Resource Management Committees and Beach Village Committee in environment and Natural Resource Management, and integrated farming

To support already available efforts of rehabilitating degraded mountain slopes and the river banks through tree planting, water and soil conservation structures and planting of fruit trees in homesteads

To support various food production practices in an ecosystem based way. This will include dimba gardening, rearing of local chickens and conservation agriculture

How will implementation be done and linked to policy

Implementation is participatory, with community involved at all levels, from planning, to implementation of activities and finally monitoring and evaluation. Main activities include training and practical demonstrations on aquaculture and fisheries management, *dimba* gardening, riverine afforestation, fruit tree nursery raising and conservation agriculture (agroforestry, afforestation and planting of fruit trees). Alternative livelihood activities are also being targeted, specifically, rearing of small livestock such as chickens and ducks to act as a cushion during lean harvests or crop failure.

To facilitate vertical upscaling into policy, lessons from CA demonstration activities will be shared with the Malawian government as it reviews its agriculture policies to include conservation agriculture. In addition, policy briefs based on this project will be prepared and shared publicly. These will inform the ongoing revision of sectoral policies in water, food security, irrigation, Metrology, fisheries and forestry among others

For horizontal upscaling, project results will be packaged into reports, policy briefs and leaflets and shared with stakeholders by dissemination through print, audio and audio-visual media. In addition, online media, the LEAD organizational website and drop-box accounts will be used for information sharing.

Expected outcomes

Links to food & nutritional security

Training on CA (20 farmers targeted) and CA demonstration on 2ha to improve yield per hectare and hence food security

Training on irrigation and support for small scale irrigation (2 irrigation farmer groups envisaged) to enhance crop yields

Training and supporting alternative livelihood activities (75 chickens distributed to vulnerable households, 5 beehives established, 1 fishpond established) to enhance community food security and availability of high quality protein

Income generation and links to value chain opportunities

Increased yields (from 900kg/ha to 1311kg/ha) and additional alternative livelihoods (beekeeping, aquaculture, rearing chicken and ducks) to earn farmers and community higher incomes

Improved ecosystems to enhance the growing of diverse crop varieties which will increase farmers sources of incomes

Project enhances value chains in tree nurseries, aquaculture e.g. production and supply of fingerlings and beekeeping e.g. production of beehives and processing and packaging of honey

Links to climate adaptation / ecosystems productivity

Training in CA techniques (agro-forestry and forestry) and demonstration activities (up to 2ha put under CA, 10,000 trees of different species planted, 3,000 fruit trees planted) to enhance ecosystem productivity as it is projected to restore perennial flow of river Ulungwi, enhance soil fertility and structure, and reduce runoff and erosion from catchment, the Namadidi hill slopes

Training on irrigation and support for small scale irrigation (2 irrigation farmer groups envisaged) to enhance community resilience to climate induced moisture stress

Supporting alternative livelihood activities (75 chickens distributed to vulnerable households, 5 beehives established, 1 fishpond established) to enhance community resilience to poor crop yields

Project 2: *Building climate Resilient Communities through promotion of high value crops for economic security and food Security (BRICS) by Foodsec Consulting Ltd in partnership with Women Farmers Association (WOFA)*

Project summary

This project is seeking to promote food and livelihood security among women farmers, who do most agricultural work, yet remain economically marginalized as well as address environmental degradation in Lower Shire, Chikwawa district. The project area is water stressed, receiving low rainfall (mean of 700mm annually). This renders the cultivation of maize, a major and preferred staple food among Malawians un-productive, and has resulted in the area residents suffering perennial food shortages. The area is also prone to seasonal flooding from river Shire, which together with uncontrolled grazing and deforestation has resulted in the destruction of local biodiversity and ecosystems.

In response to these challenges, the project is intending to train farmers on conservation agriculture (mulching), watershed rehabilitation, and collective marketing/entrepreneurship and provide inputs to facilitate growing of high value cash crops rich in biomass, and adaptable to low moisture conditions and link them to markets. Specifically red sorghum and sesame are targeted.

From sale of these crops, farmers can raise enough monies to purchase maize from neighboring areas and become food secure. Sesame can earn farmers up to USD 1,050/ha while red sorghum can earn up to USD 250/ha.

To rehabilitate the degraded sites, the project is developing and implementing a land use plan clearly demarcating areas for crop growing, grazing and tree planting as well as undertake reforestation. In addition, the sesame and red sorghum plants envisaged have high biomass yields which enhance soil structure and fertility, and hence restore biodiversity when applied as mulch.

Objectives

The overall goal of the project is to enhance food security and build resilience to climate change, through the cultivation of high value crops.

Specific objectives are:

To increase the incomes of women farmers through linkages to lucrative and long-term markets

To promote the cultivation of high yielding varieties of red sorghum and sesame among women farmers

To promote adoption of good agricultural practices, including conservation agriculture, land-use planning and watershed rehabilitation

To link women farmers to sustainable and lucrative markets

To strengthen the women groups, through leadership and entrepreneurship training

How will implementation be done and linked to policy

The project is targeting women farmers in the area. Training, supply of inputs and land restoration through developing a land-use plan and reforestation are the main activities. Implementation is through mobilizing the farmers into groups which serve as platforms through which training and delivery of inputs for demonstration activities is done. To ensure market linkages, the project will collaborate with the Malawi Investment and Trade Centre and the Auction Holdings Commodity Exchange, to facilitate contract farming and/or access to export markets.

In implementing these activities, a work-plan has been developed, with clear indications of time frame for each activity, measurable indicators against stated objectives, and project management staff with a detailed job description, and performance indicators linked to the project objectives.

To enhance vertical upscaling into policy, the project outcomes will be packaged into reports and publications which will be disseminated widely so they can be taken up into the policy space. At the national level, workshops will be organized and presentations made at appropriate platforms, including the oilseeds and manufacturing Technical Working groups, which fall under the National Export Strategy, so as to appropriately influence export policy in favor of the project products. At the local level, the project will engage with the district assemblies, in order to integrate its findings into district policies.

For horizontal upscaling across the region, the project intends to demonstrate that food security can also be achieved by cultivating suitable cash crops by organizing tours to its demonstration sites, where media and other stakeholders will be invited to witness the activities of the project, and its successes. Throughout the project life, publicity events will be organized. These will include field days and media bulletins. This will be impactful considering that SADC and COMESA countries periodically experience challenges addressed by this project.

Expected outcomes

Links to food & nutritional security

Income earned from sale of high value crops (Sesame can earn farmers up to USD 1,050/ha while red sorghum can earn up to USD 250/ha) will be used to purchase maize from neighboring areas.

Income generation and links to value chain opportunities

It is envisaged that a sesame oil processing plant will be established at lower shire as a value addition opportunity enhanced by this project

Sesame is projected to yield 600kg/ha. At a market price of USD 1.75/kg, it is anticipated that the local community can earn up to USD 1,050/ha.

Red sorghum is projected to yield 1000kg/ha. At a market price of USD 0.25/kg, it is anticipated that the local community can earn up to USD 250/ha from their crop.

It is also envisaged that the project will collaborate with the Malawi Investment and Trade Centre and the Auction Holdings Commodity Exchange, to get facilitation on contract farming and/or export markets. From exports, revenue projected for sesame is at USD 600,000

Links to climate adaptation / ecosystems productivity

The use of techniques such as conservation agriculture, land-use planning and watershed rehabilitation will encourage regeneration, and hence productivity of the ecosystem, and make it less vulnerable, over time

Biomass from sesame and sorghum will be used for mulching hence enhance soil fertility and structure

The sesame and red sorghum are high value drought resistant crops. In the context of poor maize yields traditionally experienced in the area due to moisture stress, these crops build community resilience against moisture stress as they yield highly and provide income to purchase maize

Project 3: *Building resilience to climate change impacts on the livelihoods of the fishing and fish farming communities in the Lower Shire River, Zambezi basin, by the Department of Fisheries, Ministry of Agriculture, Irrigation and Water Development, Malawi*

Project summary

Aquaculture is a water intensive activity. In the project area (lower shire basin), fishing and fish farming is a major source of employment, income and food security for poor rural households. However over the years, annual fish catch has declined by 64%. This is a major concern both locally and in Malawi as a whole as demand for fish is in the rise. Among the major causes of this decline has been reducing water levels caused by competing water uses between crop farming (mainly commercial sugarcane production) and aquaculture, overfishing resulting from practice of intensive fish farming and increased number of fishers, increased violation of fishing regulations (e.g. use of mosquito nets), weak enforcement capacity, gaps in the policy and legislative frameworks, and high rainfall variability resulting in frequent droughts and flooding that affect flow of river shire and hence water availability for fish.

Declining fish catches has both livelihood and food security implications in the project area, with projected loss of employment to over 3,500 fishers and additional 10,000 people indirectly dependent

on the fish value chain, such as processors and marketers. In addition, declining fish supply has nutritional implications with projected reduced protein intake among the local population.

In addition, poor post-harvest handling of fish is resulting to additional loss in food and income opportunities for the community.

There is also a lack of gender aggregated data on climate vulnerability in the area to ensure gender specific themes within the population are addressed.

In response to these challenges, this project is focusing on three interventions: restoration of declined fish supply, value addition, semi-intensive fish farming and policy development as means of ensuring climate resilient fishing and farming communities.

To reduce post harvest losses, the project is demonstrating proper fish handling including fish processing by using efficient smoking kilns that use less fuel-wood and packaging.

To address the water supply problem, water will be diverted from the main Shire river to the ponds. In addition, an integrated fish farming system known as integrated agriculture-aquaculture (IAA), which is semi-intensive and integrates multiple-use aspect of ponds and their benefits to other enterprises of the farm, notably vegetables like cabbage mustard seed and spinach and livestock that may include goats and pigs is being implemented.

In response to gender-specific vulnerability, the project is conducting a vulnerability assessment study that will gather gender-disaggregated data to provide relevant information on the nature and levels of vulnerability and coping mechanism of different social groups. Such information will feed into the policy and decision-making processes for a better understanding of how different categories of communities are affected and what kind of capacity and support is needed by each group.

To improve fisheries governance, at the community level, Beach Village Committees (BVCs), community-based groups responsible for fisheries management are being strengthened through management training. In addition, effective enforcement of the ban on the use of mosquito nets is being ensured through strengthening fisheries co-management arrangements and formation of by-laws to close the legislative gap and development of a fisheries management plan. In addition, the project is supplying vegetable seeds or maize seeds to the fisher's formally using mosquito net so they can engage in alternative livelihoods.

In response to competing water uses, a policy to arbitrate use of water between the competing sectors is being generated from this project

Objectives

The overall goal of the proposed project is to build institutional and ecological resilience of fish production systems and enhance food security through ecosystem-based adaptation approaches in the Lower Shire River of the Zambezi basin.

Specific objectives are:

To strengthen fisheries governance in response to climate/weather change among the Shire basin fishing and fish farming communities in the Lower Shire of the Zambezi basin.

To reduce post-harvest fish loss for increased incomes of targeted different social groups, including women and men as an adaptation measure to climate/weather variability.

To promote integrated fish farming as an adaptive measure to climate change/variability.

To identify policy and supporting mechanisms for the vulnerable social groups to climate/weather change

How will implementation be done and linked to policy

Project implementation collaborative, with the various sectors that are engaged in food production systems within the project area specifically being involved. In this context, key government departments/ministries responsible for fisheries, agriculture, water resources, local government and environmental affairs are being targeted for involvement. Specific activities being conducted include community mobilization, training, survey, policy and by-law development, and implementation of demonstration activities.

To facilitate vertical upscaling into policy, project outcomes will be disseminated and communicated to relevant stakeholders through workshops, policy brief, exchange visits, leaflets, and Government of Malawi website. Climate change adaptation policy brief based on the project will be prepared and shared with key government departments/ministries responsible for Fisheries, agriculture, water resources, local government and environmental affairs. In addition, high-level policy makers will be invited to attend field days for effective integration of the recommendations into the national and regional development policies.

For horizontal upscaling and replication across the continent, leaflets and other material, including government of Malawi website will publish project outcomes to be disseminated to the wider community. Implementation of the project within the targeted aquatic ecosystem of the Shire River will provide relevant lessons to other highly variable ecosystems. Knowing that there are several wetlands, marshy areas and fishing water bodies in Malawi, Mozambique and Zambia facing similar challenges, the success of this project will provide impetus for replication across the region.

Expected outcomes

Links to climate adaptation / ecosystems productivity

Effluent from aquaculture to be used as organic manure to enrich soil

Improved fisheries governance i.e. providing alternatives and the banning and enforcement of rules preventing use of mosquito nets for fishing to enhance natural fish regeneration and hence enrich aquatic ecosystems

Links to food & nutritional security

Implementation of the integrated fish farming system known as integrated agriculture-aquaculture (IAA), to optimize food productivity by enhancing productivity of fisheries as well as other farm enterprises, notably vegetable farming and livestock, thus enhance food security

Fish processing to reduce post-harvest fish loss from 30% to 15%, hence enhance food availability to community

Income generation and links to value chain opportunities

Fish drying using efficient kilns to enhance fish preservation as an income activity

Fish processing women groups to enhance women earning capacity

Introducing modern fish processing and packaging technologies to reduce fish post-harvest losses and enhance quality of fish sold thus enhance incomes – estimates at increase from USD 0.875/kg - USD 1.25/kg translating to USD 1.4million/year