

Project Update: April 2015

1. Introduction

Dunga swamp is one of Kenya's key biodiversity areas harbouring mainly papyrus-specialised birds and other biodiversity. It is also a known wintering point for most intercontinental migrant birds among other important ecological functions. Many conservation organisations have been working in the area for some time with remarkable conservation results for both the site and the local people. The birds and other species diversity have improved despite population pressures downstream. After consistent effort to promote conservation downstream, observations from various studies indicated deterioration as a result of what seemed to originate from anthropogenic activities upstream. Since 2012, we have established strong partnerships with the local communities upstream of Dunga and various institutions that are interested in giving support to upstream conservation efforts. This has led to involvement of various partners pushing for conservation from various fronts for mutual benefits.

Following these efforts, an idea was conceived to promote mainly nature-based enterprising and sustainable agriculture to intervene against what is perceived as unsustainable livelihood practices. To this effect, the following objectives were conceived to facilitate achievement of the broad goal to promote community based sustainable utilisation of ecosystem services to enhance climate change mitigation and conservation of biodiversity in interdependent ecosystems through educating upstream communities on rewarding livelihood options to counter existing threats.

1.1 Objectives

- i. To improve local intervention and sustainable management of upstream and downstream ecosystems through a sustained climate change education on importance of these ecosystems in impact mitigation.
- ii. To increase local household participation in curbing main causes of deforestation in the upstream forest ecosystems through promoting poverty alleviation initiatives for improved quality of life.
- iii. To strengthen local participation in sustainable agriculture through improving knowledge on best alternatives.
- iv. To improve target groups' participation in micro-finance projects through enabling accessibility to cheap loans by establishing a revolving fund.

To help us achieve these goals, the following proposed activities have so far been implemented as a build up towards other activities to help us achieve our long run goal.

2. Meetings

We held various meetings with community leaders, groups, relevant non-governmental organisations government departments (Ministry of Agriculture, Environment) and private sector partners at start for purposes of developing an agreeable calendar of activities and also to create awareness on the project objectives. Five community meetings have been held so far with local leaders and groups. Other six meetings have involved close partners in the private sector like Kenya Commercial Bank, World Agroforestry Center (ICRAF), Vi agroforestry, Wildlife Clubs of Kenya, Vired International and ministries of agriculture and environment. These have facilitated development of an adjustment on working plan for the project while also offering expertise. A baseline study was also initially done in Okok, Nyabondo and Kadero sub-locations. Out of this, provisional analysis results paint a picture of a community that has great potential to lead a sustainable lifestyle but is

being held back due to ignorance on the opportunities that exist in the ecotourism, agricultural/agroforestry and energy sectors.

Figure 1. One of community and partners planning meetings in Okok-Kajulu

3. Promotion of environmentally sound energy technologies

One of the main causative factors leading to forest cover destruction in Kajulu escarpment is need for household energy. This project sought to provide sustainable alternatives towards these problems by sharing lessons with existing action groups on locally available technologies. This was done as follows

Energy conservation groups training

3.1 Training of trainers (Energy Resources Conservation)

A 5-day training of trainer's workshop was held for 25 members of WIGOT women group. WIGOT is a women group concerned with conservation of household energy resources established through the previous phase of this project. The training was facilitated by expertise from Sustainable Community Development (SCODE) one of our strong partners from the private sector and an expert organisation when it comes to sustainable energy technologies. The training sought to enrich their knowledge base on readily available technologies to enhance conservation of wood resources and promoting alternative income sources for the women through providing knowhow on installation of these energy efficient technologies within the whole escarpment. This was also focused on promoting enterprise with these affordable energy saving technologies. Through this mostly experiential learning approach, 50 UPESI energy-saving stoves have been installed in 36 homesteads. The impact of this if is to be evaluated we believe will have made a very big difference. The trained members are also continuing with identifying and training other local groups on lessons learnt. This project has so far facilitated a one 2-day practical training workshop that had these trainers training 40 representatives from other local groups on how to construct Upesi stoves in homesteads.

Figure 2. Using local materials to construct energy stoves



Figure 3. Hands on learning to promote making and use of energy saving stoves- thus saving trees and promoting sustainable nature based enterprises

Figure 4. Ready energy saving UPESI cook stove

3.2 Trainings on woodlots establishment

To help sustain the efforts on energy conservation, we have organised training for five community groups under the Kajulu Environmental Management Program (KEMP) on establishment of own homestead woodlots to provide wood energy resources without compromising the integrity of surrounding environment. This was done through careful selection of fast growing trees for wood, animal feeds and basic home needs. Prominent species selected for the homestead models included the *Sesbania sesban*, the *Luceana leucocephala*, the indigenous and resilient acacia species for charcoal. More than 2,000 of these were planted directly to demonstrate resilience and basic uses within homes.

Currently, we have capitalised the group with total of 50 energy saving stoves liners for installation in local homes. The design of this project is to help the lead group which is WIGOT women group acquire necessary knowhow and materials like energy stove liners and fireless cooker materials then use these to raise capital through selling the materials to interested individuals within the community and charging a small fee to install and at the same time train community members to use and install these technologies. All these is meant to reduce deforestation triggered by need for energy needs thus helping to minimise its effects on downstream wetland ecosystems.

4. Sustainable Agriculture promotion

Kajulu being an escarpment has most of the habitable areas being high gradient. This exposes the areas to high levels of erosion thus also threatening downstream ecosystems. Methods practiced by most farmers for subsistence production further threaten the land fertility thus exposing more land to need for exploitation. This has been leading to more threats of putting more land under agriculture thus destroying the vegetation and tree cover. This project has sought to intervene through offering practical lessons on best sustainable farming practices that help to produce more while utilising small pieces of land for both household consumption and surplus for the market. The focus has been on agroforestry kind of approach to farming. With the help of the Kisumu county ministries of agriculture and environment, we have trained 35 local farmers on sustainable agricultural methods like establishment of kitchen gardens, use of organic methods that promote safe and affordable feeds for both humans and animals hence also facilitating conservation of surrounding ecosystems. We have established a community extension education with some of our incorporated staff from VIRED international and ministries of agriculture and the forestry department who have a weekly follow up with community farmers to enhance good practices through one on one engagements. Three sustainable agriculture models have been set up in Okok, Kadero and Nyabondo sub locations and three more are yet to be established in three local schools of Nyabondo, Okok and Oriang secondary schools.

5. Kajulu Reforestation programme

5.1 Tree nursery establishments

One of the main problems to downstream wetlands especially Dunga papyrus swamp is the upstream anthropogenic activities which mainly lead to loss of vegetation upstream. This loss of vegetation contributes immensely to the alteration of the ecology downstream thus threatening stability of papyrus endemic species downstream. We have initiated a process that enhances a sustainable upstream reforestation which focuses on homesteads and local groups. The approach involves training identified interested groups and individuals on establishment of viable nurseries that produce seedlings for on farm reforestation. So far, 30 local groups' representatives have been trained on tree nursery establishment and management. Tree nursery models have been established

in Okok, Nyabondo and Kadero sub locations within Kajulu. These are learning models established in individual homes but with an intention of facilitating community learning on best approaches to tree nursery development. This is intended to improve tree cover in individual farmlands.



Figure 5. Training on establishment of tree nursery enterprises

5.2 Training for micro enterprises on raising healthy tree seedlings

The promotion of agroforestry in this project is to promote sustainable farming, conservation and enterprise. Tree farming provides an opportunity for Kajulu community members to raise income from the growing need for trees locally. Normally from past experiences, reliance on assistance from external help for ready seedlings have led to most locals ending up with unviable tree seedlings that in most cases end up dying or with retarded growth. The need and thus demand for trees locally is a stably growing market. Our training model has focused on improving local farmers' ability to raise viable seeds adoptable to local conditions and also equip them with skills to establish and manage their own nurseries while also setting up sustainable enterprises that will also sustain upstream reforestation. Each of the tree farming models have an enterprise component to help satisfy the growing need for trees both upstream and beyond. In the three models established so far, we have more than 25,000 tree seedlings. These should help in the reforestation process and to enable the groups sell some and raise money for replenishment and meet other important members' needs over a long term.

Figure 6. Discussions on tree nursery establishment

6. Water stream conservation

6.1 Rehabilitation of streams

Rehabilitation of streams to facilitate water flow to downstream wetlands; Part of the water facilitating functions of Dunga swamp IBA and other downstream wetlands originate from Kajulu escarpment. Most streams upstream however as observed have experienced drying off due to siltation and reduced water table. We decided that it was important that at least three of these important streams be rehabilitated to facilitate further flow of water downstream. We are so far finalising the rehabilitation of one of the streams and most community members around this stream are receiving water again from the stream while there is an increased flow of water downstream from this particular stream. This should eventually contribute to wellbeing of downstream ecology as the community leaders have vowed to protect these streams as well as other neighbouring ones. The awareness created prior to this process has also enhanced local understanding on climate change and possible interventions against water, food and rain shortages.

Figure 7. Dilapidated stream, without flowing water

Figure 8. Stream under rehabilitation.

7. Climate Change Awareness

We have also established an awareness campaign on climate change, effects and possible interventions at community level. This has been targeting local leaders, schools and community groups and has involved talks, field visits, video shows and distribution of posters by Wildlife Clubs of Kenya. This we have been doing in partnership with the Wildlife Clubs of Kenya and Vi Agroforestry and have reached two schools (Oriang primary and secondary schools), three sub locations and more than 10 community leaders. As a result, climate change awareness is being enhanced through various fronts in local languages at different levels. We have incorporated climate change messages in various activities to facilitate awareness on the importance of various planned project activities in inhibiting effects of climate change.

Figure 9. Awareness to action groups and leaders



Figure 10. Climate change awareness to schools and the community

Figure 11 above. Climate change awareness to Orian'g primary school

8. Unexpected impacts

Some of the impacts of this project noted so far are include identification and additional training for community members with potential by VI agroforestry and ACTS. Through our interaction with SCODE and Vi agroforestry in this project, some of our community participants have been involved in programmes organised by African Center for Technological Studies (ACTS). Two members of WIGOT energy group were incorporated in a national training on energy technologies and this will improve uptake of new technologies and enterprise among Kajulu community. Vi Agroforestry also provided an opportunity for two more members to be trained in using locally available materials in making briquette machines for the local markets. This has improved perceptions on the existing opportunities in the energy sector thus also improving our networks. Of the three beneficiaries of this trainings, one is at the starting stage of developing his own business idea on sustainable renewable energy for communities.

9. Challenges

The terrain in Kajulu renders some parts inaccessible by vehicle. We had desired that for every group involved, we would hold events in their own backyard to be able to accommodate as many people as possible and reduce on the costs involved. But due to inaccessibility and the terrain difficulty, some of our partners and staff couldn't easily locate the venues so we moved some events to centralized places which was a disadvantage to sections of the staff and the communities concerned.

As usual due to the involvement of certain sections of the community through the Kajulu Environmental Management Program (KEMP) which is the umbrella community conservation group and other community representatives, an in fighting erupted among some of the leadership. The bone of contention was some represented groups within the umbrella group feeling insufficiently represented. One of our facilitators from the government who has good knowledge of the group helped to enhance understanding of obligations, responsibilities between every involved group to enhance division of roles. There was also an express attempt by the facilitators to resolve this conflicts through incorporating various approaches resolution of existing conflicts.

10. Future plans

The first quarter of this project ended in February 2015. The second quarter currently seeks to build on the activities in the first phase as follows:

10.1 Sustaining established local enterprises (through marketing)

There is need to help upcoming local nature based enterprises to start marketing their products. We plan to start doing this when all enterprises are well established by mid-April 2015. We are already starting to put up structures through online adverts, posters, ICT (pooled sms) to market local nature based enterprise products

10.2 On-farm reforestation and tree enterprise

Most tree seedlings have been potted. The on-farm transfer should begin by end of April 2015. We are soon starting to help the group with the practical tree nurseries management to facilitate both on farm reforestation and enterprises established from this initiative.

10.3 Strategic partnerships

Through our partnership with Vi agroforestry and Wildlife Clus of Kenya, western region, we learnt that we could acquire affordable briquette (environmentally friendly charcoal) making technologies that could also be easily acquired by local people thus enhancing success of local enterprises. We have started an awareness training for a few members of WIGOT group on briquette making and this on uptake should reduce demand for charcoal and other wood fuels locally while promoting sustainable enterprise.

We also plan in the next quarter to strengthen the nature based enterprising component through strategic marketing and partnerships. We will be seeking close partnerships with ACTS, SCODE, KCB and JIVEP

10.4 Revolving fund roll out

The idea behind this project is to promote adoption of alternative anthropogenic activities in Kajulu to minimise on environmental degradation. These have to be focused on meaningful enterprises like agroforestry, renewable energy and ecotourism. This we believe will focus more community

members on livelihood activities with better returns but less harmful to the environment. To help those with proven potential and ideas regarding these issues, we plan in the second quarter of this project to work with individual and group ideas to finance viable nature based enterprises in the mentioned sectors. The revolving fund should be rolled out in August 2015.

Conclusion

As we look forward to implementing the remaining part of the project, we also hope that our partners that had pledged to support this project through finances will fulfill the pledges as we are currently entirely relying on the Rufford grant. We are however optimistic that alternative funding will be received to enable us implement all the proposed activities. We also remain proactive in fundraising for the deficit from both local and international sources.