SIGOMA COMMUNITY DEVELOPMENT AND SUPPORT PROGRAMME

SICOMDESUP

FINAL REPORT

for the project

Sustainable Conservation and Utilization of Trees and Forest Patches through Community Action in Sigoma Location Siaya District, Nyanza Province, Kenya



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Executive summary

The increasing population together with the prevailing poverty and the decrease in land fertility in Sigoma sub-location in Siaya District of Kenya have exacerbated the encroachment on natural ecosystems such as forests and wetlands for charcoal burning, fuel, building homesteads and farming. The current project aimed to promote the sustainable use and conservation of the remaining trees and forest patches in Sigoma through community action using participatory approaches. Some of the outputs of the project include;

- indigenous trees such as *Kigelia africana, Terminalia brownii, Markhamia lutea* and *Albizzia coriaria* were identified in forest patches (mainly sacred groves), farmlands and homesteads in the location
- a strategy involving the community members and the local administration in policing and management of these patches was developed
- other fragile ecosystems in the location that need to be conserved such as the Mwer Dam identified
- the concept of team work introduced by the project was well taken and is currently being practiced by community members in most activities in the location for example in clearing blocked paths and roads
- existing tree nurseries in local primary schools were supported are currently very active
- two tree nurseries were established and are currently managed by the community members
- awareness on nature/ environmental conservation as well as services provided by trees to the environment created among the local and neighbouring communities
- awareness on alternative income generating/ earning activities such as bee and poultry keeping soybean and ground nut production created through lectures and study tours and are currently being practiced by the local community members
- a community wide tree planting or reforestation programme initiated in the location, including establishing woodlots at Duha Primary School. This has been positively taken by the community members and are now planting trees in their own farms
- women groups and leaders were noted to be more active and reliable in communal activities compared to the other associations such as youth and church groups
- contacts and linkages made with government departments and other organisations such as the local administration, Forest Department (FD), National Environment Management Authority (NEMA), Kenya Forest Working Group, Technology Adoption Through Research Organisation (TATRO), and the Dominion Group for nature conservation in Sigoma and its environs
- a seed collection and preservation of locally adaptable indigenous and exotic trees was initiated in the location
- the local community members were enabled to learn about environmental conservation and income generation/ earning activities in other areas through study tours made to TATRO, FD and Dominion Groups

Major challenges faced by the project include;

- high expectations including tackling the rampant poverty in the location by the community members
- initial resistance by the community members leading to clearance of some forest patches and the trees
- trees planted as a community not well taken care of as those planted by individuals and
- lack of a central store for acquired common resources.

Follow-up activities suggested based on lessons learnt from the current project were;

- fencing off of the identified forest patches
- promotion of planting of trees by individuals
- focussing on women groups and leaders for the community activities
- documenting the remaining trees, their uses and habitats
- bulking locally adaptable medicinal tree species
- preparation of information materials on the locally tree species and.

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1. Introduction

The utilisation of wild resources by rural people the world over is done for food, shelter, traditional medicine, dyes, oils, fuel, fibres, tools and cash income among others, sometimes to the point of extinction. Any use of biological resources results to some degree, in alteration of ecosystems, and often in their simplification, an effect that may result in ecosystem instability. The increasing population and the decrease in land fertility especially in parcels which have been used for decades by the local population, has exacerbated the encroachment on natural ecosystems such as forestlands for building homesteads and farmlands. Sigoma sub-location covering 11.42 Km^2 in Uranga Division in Siaya District, of Kenya (fig. 1a,b,c) is one of the few areas which is endowed with relics of the tropical rainforest. The location is known to be home to unique tree species, such as *Grewia bicolor* Hochst ex A. Rich. (Tiliaceae), *Ficus sur* Forssk. (Moraceae), *F. sycomorus* (Moraceae), *F. thorningii* (Moraceae), *Erythrina abyssinica* (Fabaceae), *Euclea divinorum* Heirn (Ebenaceae), *Kigelia africana* (Lam) Benth. (Bignoniaceae) and *Balanites aegyptiaca* (L.) Delile (Balanitaceae).

Sigoma has 7 neighbouring sub-locations and is also bordered by river Nzoia to the west (fig. 1c). The sub-location is relatively at a higher elevation compared to its neighbours. This means that Sigoma is an important catchment for the river and its neighbours. Therefore any human or natural activity taking place in Sigoma has a significant effect on the river and the other locations.

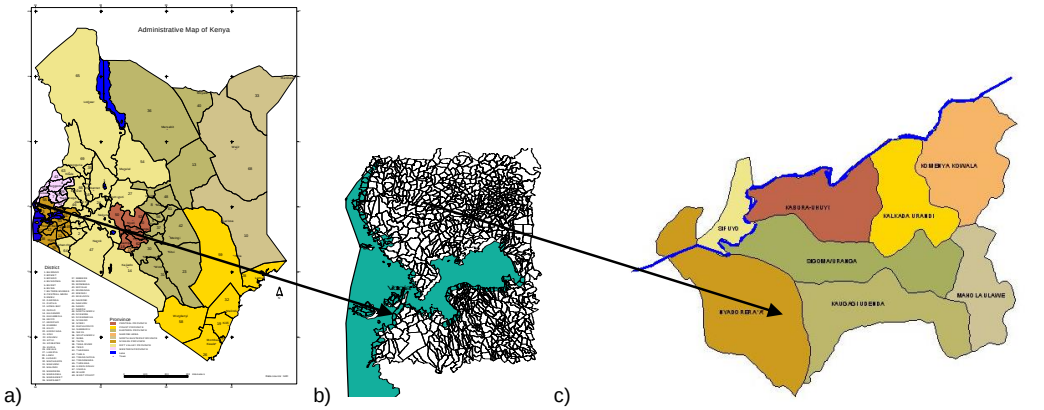

Figure 1. a) Administrative map of Kenya b) Locations around Lake Victoria c) Sigoma, its neighbouring sub-locations and River Nzoia

The human population in Sigoma is currently estimated to be 3,800 most of who are women and children with a poverty level of 63%. The location is characterised by low soil fertility due to the repeated cultivation of the land, and reduced tree cover.

Due to the increased pressure by the local community some of the forest patches, which were once landmarks in the area, have been cleared off. It is therefore evident that efforts to restore or even increase the supply of plant material most desired in diets, building and other socio-economic activities in the location is pertinent. This project was a stand-alone activity but contributed to the overall community development and support initiative, which promotes the sustainable utilisation and management of the locally available resources at the same time improving the living standards of the local population.

2. Objectives

The overall Objective of this project was to enhance the sustainable utilization and management of locally adapted indigenous and exotic tree species as well as the overall nature conservation.

The specific objectives were to:

i) Identify, locate and promote the conservation of existing indigenous trees and forest patches
ii) Promote formation of local committees to manage the identified trees and forest patches
iii) Establish nurseries of exotic as well as both common and threatened tree species in Sigoma
iv) Establish a continuous community reforestation programme in Sigoma

v) Provide environmental education and training
vi) Conduct field study tours

3. Results and discussions

3.1. Identify, locate and promote the conservation of existing indigenous trees and forest patches

Due to the rampant deforestation and cutting down of both indigenous and exotic trees in the location the project endeavoured to identify and locate the remaining indigenous trees and forest patches in Sigoma. Most of these patches are areas of outstanding beauty and biological diversity. These patches are located mainly in areas which are considered as sacred sites and are locally referred to as '*Hubho*" (fig. 2a). These sites were revered because of the socio-cultural importance the community had on them. They were used as places where local rituals such as rain making, appeasing gods at times of misfortunes for example when a prominent person dies in the community. Some of the indigenous trees associated with these sites include, *Kigelia africana*, *Markhamia lutea*, *Grewia bicolor*, *Terminalia brownii*, *Euclea divinorum, Ziziphus macronata, podocarpus latifolia, and Vepris nobilis*. The other indigenous trees noted in the forest patches as well as other habitats such as farmlands and homesteads in the location include *Cordia monoica, Ficus sycomorus, F. sur, Acacia abyssinica, Carissa spinarum (edulis), Euphorbia candelabrum, Combretum molle, C. collinium, Croton macrostachyus, Senna singuearia* and *Albizzia coriaria* (fig.2b). The only indigenous fruit tree found in these patches and in other habitats is *Tamarindus indica.*

The project also identified the common exotic trees found in Sigoma. These were found to include *Eucalyptus* spp., *Jacaranda mimosifolia*. *Gravellia robusta*, *Pinus patula*, *Senna siamea, Cupressus lusitanica, Leucaena leucocephala*, and *Moringa oliefera*, while the exotic fruits include *Mangifera indica,* (Mango)*, Persea americana* (Avocado), *Psidium guajava* (Guava) and *Morus alba* (Mulberry).

a)  b) 

Figure 2. a) One of the sacred sites "*Hubho*" in Sigoma, (Got) with *Euphorbia candelabrum, Markhamia lutea, Albizzia coriaria* and *Tamarindus indica* trees, b) A mature *Albizzia coriaria* tree with fruits.

It was noted that all the sites; Duha, Regro, Manga, Nyuria, and Got have been interfered with (clear patches in Fig. 2a above) for building construction, firewood, charcoal burning and agriculture. Several discussions were held with the local administration (Assistant chief and village headmen) to assist in identifying the sites and to verify their ownership. This was necessary because when the project was introduced some of the community members, especially those leaving close to the forest patches reacted by claiming ownership and clearing the old indigenous trees in the forest patches ultimately turning the land for agricultural purposes (*see challenges* Pg 7, 5.3).

Continued discussion led to an agreement with the local administration for 3 of the sites (Manga, Regro and Got) to be protected against indiscriminate harvesting of the remaining tree species. These areas have also been earmarked for communal tree planting. The community is looking forward to fencing off these areas to regulate access to the remaining trees.

3.2. Promote formation of local committees to manage the identified trees and forest patches

In collaboration with the local administration, women and youth groups, an environment steering committee was formed for managing these forest patches, including measures to guard against further removal of woody vegetation, especially the indigenous timber and fruit trees. These measures included continuous monitoring and reporting to the committee and Assistant-Chief any illegal cutting down of the trees.

Through this project the community also negotiated with the local administration through the former District Officer (DO), Uranga Division, Mr. Mohamud Ibrahim Hassan, to establish other committees in charge of other natural resources in the area such as Mwer Water Dam and its catchment areas (fig. 3a, b). The DO said that “I would wish to be part of the initiative to streamline the management of Mwer Dam and its environs as it will be the landmark with which I would be identified and remembered with after my departure from Uranga”.

a)  b) 

Figure 3. a) Mwer Dam water body b) Trees planted previously by Forest Department on the banks of Mwer Dam

3.3. Establish nurseries of exotic as well as both common and threatened tree species.

Before the project started three local primary schools (Duha, Mwer and Sidok) had received support in form of seeds and polythene bags from a tree planting initiative of the Children and Youth/Sports Environmental Division of UNEP, to establish tree nurseries. The current project bought watering cans more polythene bags and acquired seeds (fig. 4) from the World Agroforestry Centre (ICRAF) in Nairobi and the Forest Department in Siaya and gave to the schools in order to boost these tree nurseries. The seeds acquired by the project included both indigenous and exotic species such as *Markhamia lutea*, *Tamarindus indica*, *Moringa oleifera, Acacia nilotica, Grevellia robusta, and Artemisia annun*.

Figure 4. Seed materials acquired from ICRAF and polythene bags bought by the project for the nursery establishment.

Collection and drying of seeds of both indigenous and exotic tree species was also initiated. Seeds collected included those of *Tamarindus indica, Grevellia robusta, Spathodea campanulata, Leucaena leucocephala*, *Kigelia africana, Albizia coriaria* (fig. 5)*, Grewia bicolor, Senna siamea, S. singuearia, Vepris nobilis* and *Markhamia lutea.*

 b) 

Figure 5. Seed materials collected, prepared and dried locally under the project a) *Albizia coriaria* seeds b) *Spathodea campanulata* seeds.

Some of the materials acquired by the project were also used to establish two nurseries one at Mwer next to the Dam (fig 6) where the Forest Department previously had a nursery and the other at Manga village in Sigoma. These two nurseries were managed by two members of the community throughout the project period up to now.

a)  b) 

Figure 6. a) Walter (Left) together with the local Assistant Chief (right) and Mr. Alex Oyimba (responsible for the nursery at Mwer Dam) during the preparation of the site for the establishment of the nursery, b) the new tree nursery established at Mwer dam under the project.

3.4. Establish a continuous community reforestation programme.

Through the project the local community members, women and youth groups and church leaders (Catholic Church and Good Samaritan Mission) as well as Duha Primary School pupils were mobilized and organized to participate in the World Environment Day on 5th June 2004 (fig 7a). The day was marked by giving lectures and poster shows on nature conservation and planting of multipurpose trees at Duha Primary School. The project purchased seedlings from Sidok Primary School which already had a well established tree nursery from the UNEP tree planting initiative. The trees planted included *Markhamia lutea, Grevellia robusta, Terminalia mantaly*, and *Moringa oliefera*. Women group leaders, school pupils and village elders were also given seedlings to plant in their homes and farms. A woodlot was established at one corner of the school (fig. 7b).

a)  b) 

Figure 7. a) Duha Primary school pupils watering trees (before the cans were bought) planted in the school compound on 5th June 2004 (World Environment Day) (b) Duha School Teachers inspecting seedlings planted at one corner of the school to establish a woodlot.

The project also purchased tissue culture Eucalyptus seedlings and distributed to the members of the community for planting in their own farms. This is expected to increase the biomass of timber trees in the area and reduce the pressure on indigenous trees such as *Markhamia lutea, Senna Singuearia* and *Terminalia brownii*.

The tree planting initiated by the project has been well taken by the community members and is a now a continuous activity. Thus the demand for tree seedlings in the area has grown since the start of the project and is not being satisfied by the available seedlings from the nurseries within reach of the community members i.e. those started by the project as well as the ones in the local primary schools.

3.5. Provide environmental education and training.

The project has been instrumental in raising awareness on nature conservation and protection through training sessions using lectures and visual aids (fig. 8a,b). Areas covered included communication skills, importance of working as a group or team, concept of sustainable development and its linkages

with forest resources, natural resources and environment protection/ management tree nursery and woodlot establishment and maintenance, alternative sources of income such bee and poultry keeping, as well and cotton and groundnut cultivation. The trainings also covered areas such as the importance of trees in soil conservation, rain catchments, medicinal value, aesthetic value, fodder, soil fertility improvement and the general land cover. In the training we adopted an open house policy where all the community members and also those from neighbouring locations were allowed to attend. Talks on environmental conservation were also given during education and sports days in the local schools.

Figure 8. One of the training sessions of local women and youth group leaders and other community members on nature conservation

3.6. Conduct field study tours.

The first visit was made to Ochur village in Gem (Yala Division of Siaya District) where Mr. Paul Okongo, a former schoolteacher and farmer who in 1993 together with his wife Joyce, and several village women founded Technology Adoption Through Research Organizations (TATRO). TATRO is a local group whose chief aim is to improve women's conditions by involving them in agricultural development and small agribusinesses (fig. 9a,b,c). TATRO has accomplished a lot of development projects in Ochur village thereby the village is commonly referred to as "TATRO." During the visit the community members were shown around and enlightened on how a local community initiative can improve the livelihoods of the local population at the same time enhances the conservation of the environment. This according to Okongo can be done through various activities by the local people themselves such as starting tree nurseries as a business, planting and raising indigenous vegetables, staple crops such as maize, millet, cassava in groups for income earning, establishment of a micro-credit facility for members and production of quality seeds for sale.

a)  b)  c) 

Figure 9. a) Mr. Paul Okongo and some members of TATRO, b) Okongo showing the visitors TATRO tree nursery c) Okongo in TATRO plot of *Corchorus* an indigenous vegetable.

The second visit was made to the Forest Department nursery at Siaya, where the members learnt tree nursery establishment and maintenance, seed collection, drying and storage.

The third visit was made to the Dominion Group of Farms who have invested over 14 million US$ in Yala Swamp, located 10 kilometers south of Sigoma, to undertake different agricultural activities including rice, fish and cotton farming. The members were shows the ongoing activities around the farm and how the neighbouring and other interested communities are engaged to participate in the project activities.

4. Other achievements

4.1. Since the start of the implementation of this project the community members have identified themselves with it and are now appreciating the importance of working together in several other development initiatives such as farming, clearing of roads (fig. 10) and education among others.

There is now a strong cooperation with the government and this has played a significant role in decreasing the cutting down of trees for charcoal burning and other purposes in the area.

Figure 10. A part of a road cleared through a joint community action.

4.2. Several other groups have been formed within Sigoma and its neighbouring locations. Some of these groups include the Integrated Development for the Disabled of Kenya (IDDOK), a local group targeting the physically challenged members of Sigoma community and its environs, Nduru Women Group, and Kogola Women Group who work closely with SICOMDESUP in environmental as well as alternative income earning activities.

4.3. Members of neighbouring communities are also eager and have started copying some of the ideas and practices disseminated through the current project.

4.4. Another significant contribution of the project is the promotion of self-employment in the area. Three members of the community have done the reverse of the 'norm' by migrating from the urban to the rural area. They are now into horticultural crops (cabbages, kales and tomatoes) and Soy beans production for cash income.

4.5. After the lectures on alternative income earning opportunities, most of the resident community members have also started growing horticultural such as tomatoes, cabbages and industrial crops such as cotton and groundnuts for income earning and food security. This has resulted in reduced cutting down of trees for charcoal burning to earn income in the location.

4.6. Through the project SICOMDESUP has also approached Dominion Group and acquired 10 beehives valued at KShs 4,000 each at a reduced deposit rate of KShs 500 each and the balance to be paid for in instalments at every delivery of the honey harvested.

4.7. SICOMDESUP was invited by Kenya Forest Working Group (KFWG) in conjunction with Kenya Wildlife Society to participate in capacity building training programme on forest management in Kakamega, Kenya.

4.8. Through the project SICOMDESUP is now proud to own a used laptop computer (Toshiba) and a printer (Inkjet).

4.9. Together with Nduru Women Group from Kabura-Uhuyi sub-location, SICOMDESUP has drafted and submitted other proposals to various agencies for support. These include a proposal on HIV/AIDS awareness and support to the affected and infected members of the two communities submitted to the National AIDS Control Programme in Kenya (not-supported). The other was on the conservation of the banks of river Nzoia through tree planting submitted to UNDP Small Grants Programme in Kenya (awaiting response).

5. Challenges

5.1. The community members initially thought that this is a big project that was going to assist in alleviating the poverty in the sub-location. This thinking slowly changed with time when they were informed that the current project focuses on the conservation of the local trees and not on the provision of food and other basic livelihood requirements during the various awareness meetings and field visits.

5.2. Some of the community members were sceptic of the project as they felt that it was going to take over and assume ownership of their farms and the trees in them. This attitude also changed over time especially after the several awareness lecture and campaigns conducted by the project.

5.3. The major upset experienced by the project is that some of the community members staying next to the forest patches converted them to farmlands and this lead to the elimination of some of the indigenous tree species such as *Euclea divinorum, Ziziphus macronata, podocarpus latifolia* in these patches.

5.4. Trees planted as a community was not well tended to as compared to the ones planted as individuals. Thus most of them died off.

5.5. The youth groups in the area are not strong and active as compared to the women groups

Lack of a central place where common resources such as education materials belonging to the group can be stored has hindered storage and easy access to members as they had to be kept in individual members' homes or schools.

6. Recommendations for follow-up

The experiences and lessons learnt during this project have guided the direction of how the conservation of the natural resources in Sigoma can be achieved. Therefore the following follow-up activities are suggested;

6.1. Seek support to erect barbed wire fences around the remaining forest patches with indigenous trees.

6.2. Promote individual planting of trees to ensure care and maintenance of the trees.

6.3. Engage more with the local women groups and to vest more leadership responsibilities to women.

6.4. An in-depth study and documentation of the local tree species and their uses. This will include documenting and categorising the local trees based on the habitat they occur and uses by the local community. This will assist in assessing the people's perception and attitudes towards the various trees available in the location.

6.5. Together with Kogola and Nduru Women Groups, SICOMDESUP seeks technical and financial assistance to expand the collection, drying, storage, packaging, and raising seedlings. This will target mainly the indigenous trees especially those with medicinal value which will be multiplied and bulked. Thus in addition to the most commonly raised seedlings of the exotic trees such as *Eucalyptus* and *Gravellia*, due to their perceived economic importance for timber production, the increased enthusiasm among the community members is expected to raise the tree cover in the area at the same time benefiting from income earned from both timber and medicinal trees.

6.6. Prepare simple information materials/documents that can be understood by the local community (some even in the local Luo language).

7. Acknowledgements

Financial support for this project was provided by the Rufford Small Grants. I am grateful to Josh Cole, Grants Manager and Jane Raymond for their continued support through the period of the project. I also appreciate the support provided by Mr. Mohamud Ibrahim Hassan, former Uranga Division Officer, Mr. Nicholas Owuor Ayimba, Assistant Chief, Sigoma-Uranga sub-location, Willis Omondi Were, Siaya District Environment Protection Officer, the District Forest Officer Siaya District and his team, Social Development Officer Uranga Division. Special thanks goes to the Headmasters, Teachers and Pupils of Duha, Mwer and Sidok Primary Schools, members of Kogola and Nduru Women Groups, Integrated Development for the Disabled of Kenya and the general community members of Sigoma and its neighbouring locations. I acknowledge that without their participatory assistance and support both in planning and execution, this project would not have been possible.

8. Sigoma Community Development and Support Programme (SICOMDESUP) - A Short Profile

SICOMDESUP is a community-based organization registered in the year 2000 under section 10 of the Societies Act in Kenya. The objectives of SICOMDESUP are 1) to enhance sustainable quality life through the provision of food and agriculture, health, water, education and proper communication, 2) empowering and strengthening family, women, youth and community programs and 3) assuring and protecting dynamic natural resource and environmental systems.

SICOMDESUP strives to achieve these objectives through community consultation and participation and by establishing linkages and partnerships with various development partners including the government and other interest groups.

The target group for the programme includes persons living in Sigoma Uranga Sub-location and its environs within South West Alego Location, Uranga Division of Siaya district, Kenya.