

**SCALABLE APPROACHES TO IMPROVING TENURE SECURITY FOR SMALLHOLDER
FARMERS IN UGANDA**

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**Paper prepared for presentation at the
“2015 WORLD BANK CONFERENCE ON LAND AND POVERTY”
The World Bank - Washington DC, March 23-27, 2015**

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ABSTRACT

Secure land and property rights are essential in the decision making on actions to reduce poverty by households. Farmers cultivating on informally occupied land face a constant threat of land repossession, crop destruction and even violence from the registered land owners. Vegetable Oil Development Project Phase 2 and the Global Land Tool Network (GLTN) are piloting the Social Tenure Domain Model in Kalangala district in Uganda. The pilot project, named the Farmer Driven Enumeration is intended to enhance VODP2's planning and consultation mechanisms, mapping and structure numbering, data collection, capture and analysis, and, data validation and updating.

Currently, the model has proved to be practical, user friendly and applicable to the project, communities and partners for information gathering and exchange. The tool will also analyze spatial data incorporated with social economic characteristics. Working with the farmers in a participatory and transparent process has led to ownership, acceptability, quick buy-in, now the farmers who have not been covered are demanding for the enumeration exercise. Openness in pre-and post-data collection activities has convinced the leaders to take leadership of the exercise. Farmers say the mapping had also facilitated effective application of fertilizers, contracting of laborers and assessment of productivity per acre.

Key Words:

Farmer-led, GIS, mapping land, natural resources, security of tenure

INTRODUCTION

Secure land and property rights are essential in the decision making on actions to reduce poverty by households. Land ownership in many parts of Uganda was changed after the country became a British Protectorate in 1894. The British introduced land reforms in the central part of the country, Buganda, which gave large tracts of land to selected groups and families but resulted into majority of the people of Buganda becoming tenant farmers. They introduced the freehold system which changed the focus of land use from communal grazing and farming into a means of supporting the industrial revolution in Europe and America with their huge demand for raw materials, many of which came from Africa.

In 1900, the British government signed an agreement with the King (Kabaka) of Buganda which divided land in Buganda into two: Mailo Land and Crown Land. Mailo land was then offered to the King, the chiefs and some influential individuals while Crown land was held for government purposes. The land divisions were largely between the nobles (chiefs), the protectorate Government, and the Kabaka. The system was based on square mile sub-divisions of land and created a situation where peasants and immigrants on large pieces of undeveloped land in Buganda were legally rendered landless. In some cases, land was distributed to absentee landlords which led to the evolution of squatters, people who settled, farmed and grazed animals on undeveloped land of an absentee landlord but who could later be evicted by the landowners. To date, large chunks of mailo land suffer underdevelopment due to absent landlords.

Attempts to steam line the land tenure and management system in Uganda including the Public Land Act of 1969, the Land Reform Decree of 1975, the 1995 Constitution of the Republic of Uganda, the 1998 Land Act and its amendment in 2010 somewhat provided some land reforms. The 1995 Constitution stated that land in Uganda belongs to the citizens of Uganda and created four land tenure systems: Customary, Freehold, Mailo and Leasehold. The Constitution also established the Uganda Land Commission whose function was to “hold and manage any land in Uganda vested in or acquired by the Government of Uganda in accordance with the constitution and any other functions as may be prescribed by Parliament”⁴.

In 1998, the Land Act was enacted to regulate the land management system in Uganda. It proved for a Certificate of occupancy to be issued to the occupant on application to the registered owner. The certificate is meant to enable occupants to prove that he/ she is bonafide as defined by Section 29 of the Land Act 1998. This made bona fide occupants statutory tenants of the registered owners and these

⁴ Article 239 of the Constitution of the Republic of Uganda 1995

occupants are required to pay ground rent to their landlords on mutually agreed rates. The amendment to the Land Act in 2010 provided that the tenants who had lived lived unchallenged registered land for 12 years or more, or who were settled on the land by the government, could not be evicted for any reason other than non-payment of the nominal ground rent. This however did not solve the land problem in Uganda. Improved tenant security has instead resulted into dual claims to land in Buganda where the title owners are unable to sell their occupied land and the tenants find it difficult to develop the land they occupy because they do not own the title to it and therefore may be evicted.

The land that was distributed in Buganda by the British in 1900 has now changed from one generation to another and yet majority of Ugandans are not aware about the laws and land reforms. People are occupying land they do not own without the consent of landlords and later are evicted by the owners. In many cases, land owners are also not aware about the process required to get certificates of title for their land, and are not even aware about the actual boundaries of their land. Ignorance of the law and land tenure on both sides has created even more conflicts on the land in Buganda.

1.0 LAND TENURE SITUATION IN KALANGALA DISTRICT

Kalangala is one of the districts in Buganda Kingdom. It was therefore part of the land that was divided by the British (mailo and crown land) in 1900. The most common land tenure systems in Kalangala are private mailo, public land, free hold land and customary land. Majority of the people in Kalangala (estimated at over 80%) do not have documentation for the land on which they live, or carry out their productive activities. This was not a serious problem before the 1990s as there was barely any economic activity going on in the district apart from fishing, so the population was very low. The fishing villages were the only relatively populated areas. The district was infested by tse-tse flies in the 1970s which is said to have led to many people abandoning the district.

By 1980 Uganda National Population and Housing Census, the population in Kalangala was 100% rural. By 1991, there was a significant change and the urban population was 8.4% of the total district population out of which 55% and 45% were males and females respectively⁵. The urban population was in Kalangala Town Council. In terms of population density, the district witnessed a 213% and 218% increase of males and females respectively between the years of 1999 and 2002 and the district still has the highest sex ratio (number of males per 100 females) in the country even though between 1980 and 2014, the female population has been increasing steadily.

Kalangala district is made up of 84 islands out of which 25 are inhabited; and is divided into two counties, namely, Bujumba and Kyamuswa. The district has 7 sub-counties and 15 parishes. Bugala island is the biggest and covers a total area of 296 km², and forms an “S” shape covering 58 kms with a width ranging from 2 to 5 kms. Kalangala Town Council, found on Bugala island is the headquarters of the district.

Land administration mainly concerns matters related to procedures of land acquisition and registration, valuation, surveying and settlement of disputes. Land management is under the Natural Resources Department, and offers services throughout the district. Land management sub-sector is mainly charged with the responsibility of advising the councils; District and Lower Councils on matters pertaining to land in the district. Issues of land management include management of land held by the District Land Board, issuance of land titles, land rights education and so forth. The Department has the following objectives;

- i. Increase awareness amongst all Land users and Owners on need for conservation/management of Land as a resource for tangible and non-tangible benefits
- ii. Register interests in land
- iii. Promote physical planning
- iv. Prevent and settle land disputes
- v. Survey land
- vi. Valuing land

Land tenure refers to all the rights provided for by a legal system, through which an individual and groups gain access to land (KDLG 2005). Land tenure system is referred to an arrangement or system that determines and regulates the manner in which land is owned, utilized and managed. The land tenure systems operating in Kalangala district are Mailo, Customary, Freehold and Lease hold.

2.0 THE OIL PALM SMALLHOLDER SCHEME

The Vegetable Oil Development Project Phase 2 (VODP2) under the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) is promoting the cultivation of oil palm in Kalangala and Buvuma. The Government is also investing in the development of oilseed crops (sunflower, soybean, sesame & groundnuts) value chains in fifty districts in Eastern, Western and Northern Uganda. VODP 2 project goal is “Sustainable poverty reduction in the project area” while the development objective is “to increase the domestic production of vegetable oil and its by-products, thus raising rural income for smallholder producers and ensuring the supply of affordable vegetable oil products to Ugandan consumers and neighboring regional markets”.

VODP 2 is Uganda's strategic effort to increase domestic vegetable oil production, address rural poverty by involving farmers in oil crops production and improve the health of the population through increased vegetable oil intake. Oil is an important food essential for brain development and the provision of calories to the body. Compared to a global average consumption of oils and fats of 22.4 kg per person per year, Uganda's per capita consumption at, 5.6 kg is quite low and the intake is expected to rise to 7kg by 2018.

The oil palm component of VODP has attracted Oil Palm Uganda Limited (OPUL), to consolidate in Kalangala and expand to Buvuma district. A total of US\$ 120 million has been injected in by the OPUL as Foreign Direct Investment. The project is exploring new areas for oil palm development in the country through research trials in Hoima, Kibaale Masaka, Bugiri Mayuge, Amuru, Arua and Gulu districts.

In Kalangala, the project has supported 1,610 smallholder farmers with 578 female (36%) to plant 3,863 hectares of oil palm. Government of Uganda leased 6,500 hectares of land to OPUL for a nucleus estate and so far, 6,440 hectares have been planted. This brings the total oil palm scheme in Kalangala to 10,303 hectares. The project intends to support 210 other smallholder farmers to plant another 837 hectares, to achieve the smallholder planting target in Kalangala of 4,700 hectares. Currently smallholders are harvesting from 1,510 hectares. As at the end of December 2014, 34,107 tons of fresh fruit bunches valued at Ushs. 13.2 billion (USD 5.3 million) have been harvested by smallholder farmers. This has been possible due through the project support to smallholders with a Ushs 34.7 billion (USD 13.9 million) both cash and in kind loan given out to the smallholder farmers organized under the Kalangala Oil Palm Growers Trust (KOPGT) and the Kalangala Oil Palm Growers Association (KOPGA). The farmers receive project services, including oil palm seedlings, high quality fertilizers, extension advice and training. By the end of December 2014, Ushs 3.7 million (USD 1.4 million) had been recovered directly from farmers' earnings. Bugala island was geographically divided into 6 implementation blocks for easy of management of the oil palm smallholder scheme.

Since the project started Kalangala is witnessing major infrastructural developments. 250 km of farm roads have been built, two new ferries to access Masaka district to the South and a daily ship plies to Entebbe route. Figure 2 at the bottom shows the existing land use on Bugala island.

The private sector investor OPUL/BUL set up a Nucleus Plantation where demonstration of Plantation farming and Nursery technologies is done and established the Oil Palm Mill at Bwendero. This created employment for over 3,210 workers directly employed by both OPUL and smallholder households. Participating families are using the funds to educate their children in mainland schools and can afford

better health services and habitation structures from the temporary housing structures to permanent houses. On average OPUL/ BUL pays Ushs 80 billion a year in taxes.

There is a marked improvement in information flow among farmers through the use of SMS media to communicate prices and funds availability. The farmers have been empowered to be active in decision making and are now financially literate, as all the 1,610 smallholder farmers operate Bank Accounts. They have now set up their own Ssesse Oil Palm Growers SACCO, which helps them to save, access loans and other financial services.

Kalangala district is experiencing an increase in agro-tourism for both locals and foreign people to see the wonder of 10,000 hectares of Oil Palm and the 12 white sand beaches. Private investors have built 10 more hotels, thereby creating jobs in the construction and hospitality services sector. Ship services to Kalangala have been introduced and ferry services to the mainland improved. Studies for interconnection of some of the major islands with ferry services are being carried out, and rural electrification of the main island, Bugala is ongoing and water supply in Kalangala town is under construction.

3.0 PROBLEM STATEMENT

The above progress notwithstanding, it is estimated that over 80-90% of the smallholder farmers have no titles for the land on which they have grown their palms, and have built their homes. Majority of the farmers are either on private mailo land, public land and the recently returned Buganda kingdom land as Kibanja holders. The others are squatters and do not know who owns the land but have invested on it with their oil palms and homes. Many of the Kibanja holders only have kibanja agreements from the previous kibanja holders and have not established a relationship with the land lords. Furthermore, boundaries of the land on which they have grown their oil palms and built their homes are not demarcated and marked. This has made the farmers feel insecure as they know that the owners of the land will soon come and claim to retake their land. Even where someone has gone into some negotiations with the owners, lack of demarcation of the boundaries means that when the survey process is undertaken, there is a high possibility of losing some of the land on which they are carrying out their economic activities or built their homes. Over the years, there has been indication that oil palm farmers that are tenants on public land would be granted with either lease or free hold titles but no real action has been taken towards this.

Finding a solution to interests on the land is one of the major challenges to the sustainability of the palm oil project. Some oil palm farmers who have no security of tenure are selling off their use rights because they fear they will lose their investment. The developments on the island have also attracted wealthy individuals who are now buying off the private Mailo land. Absentee landlords have also returned to the island because of the increased land value. The price of an acre of land has increased from Ushs. 50,000 (USD 20) in 1990 an acre to the current Ushs. 3,000,000 (USD 1,200) an acre. The oil palm farmers are worried that as squatters, their gardens will soon be fenced off or that they will be evicted. This has led to some farmers selling off their gardens to get money and buy land with more secure tenure else where which defeats the purpose of the project. The option for the squatters to buy the land is not viable as they still cannot afford it. Majority of the oil palm gardens are yet to mature for harvesting. Even those who have not been affected yet are worried about their future.

Rights of women to land have also emerged as critical issues in the implementation of the palm oil project. The project has a clear gender inclusion plan with a target of having atleast 30% of the registered farmers being women, but the females have been found to fall on the wayside because of the strength of male dominance. Some women have been reported to hand over their proceeds from the growing of palm oil to their husbands, and in many cases, the men have gone ahead to marry other women leaving their wives and children vulnerable. Without issues of security of tenure both for their gardens and homes being sorted out, the risk of homelessness and lack of means of survival is very high.

4.0 LITERATURE REVIEW

IFAD 2012 defines land as farmland, wetlands, pastures and forest. Land tenure is defined as rules, norms and institutions that govern access to land. It defines land tenure security as enforceable claims on land supported by national regulatory frameworks. IFAD 2012 continues that land tenure systems can be formal or informal, statutory or customary, permanent or temporary. It notes that some systems are legally recognized, others are not. Some involve private ownership; others are based on common property. IFAD uses various tools and approaches to strengthen poor rural people's access and tenure and their ability to better manage land and natural resources, individually and collectively. These include among others using geographic information systems to map land and natural resource rights, use and management and identifying the best practices in securing these rights through business partnerships between smallholder farmers and investors.

Kyomugisha E (2008) found that in Uganda most land is acquired in the informal market. Very few freehold land owners get titles for the land they own, because the process is expensive and bureaucratic. The development of the land market in Uganda has largely been due to the various land reforms that successive governments have made since colonial times. However, weak legal institutions, a lack of understanding of property rights, the lack of security to facilitate investment have constrained the development of properly functioning land markets. Because land tenure systems in Uganda remain relatively informal, agricultural land is not commonly used as collateral asset for acquiring financing for agricultural production. She adds that secure land tenure is an important institutional factor affecting agricultural technology utilization by smallholder farmers by providing incentives for greater investment to enhance the productivity of the land.

Hagos H.G. (2012) found that afraid of not recouping investment made on land to which the user has access but no secure property rights, the user hesitates to spend resources on land-improving technologies (conservation, manure, fertilizer, e.t.c). As a result, the demand for productivity enhancing investment declines and aggregate agricultural productivity suffers. Secondly, secure property rights also are through to influence agricultural productivity because such rights encourage efficient resource use (factor intensity). This is so since that land will be reallocated to more efficient producers. Thirdly, it has also been claimed that secure property rights can stimulate efficient resource use as such rights should reduce land related disputes (Deininger and Castagnini 2006; Holden et al. 2008) and may contribute to better access to credit if land can be used as collateral.

Lighton Dube et al wrote that development specialists argue that land tenure security is a pre-requisite to increased smallholder agricultural productivity and development. Arguments in favor of statutory, individualized land tenure systems (titling) claim that tenure security (1) increases credit use through greater incentives for investment, improved creditworthiness of projects, and enhanced collateral value of land; (2) increases land transactions, facilitating land transfers from less efficient to more efficient users by increasing the certainty of contracts and lowering enforcement costs; (3) reduces the incidence of land disputes through clearer definition and protection of rights; and (4) raises productivity and sustainability through increased agricultural investment. A number of studies have shown that farmers will be more likely to make medium – to long – term land improvement if their tenure is secure because they will be more likely to benefit from investment. Assuming that farmers have access to viable technologies, inputs and extension advise, and adequate household labor and financial resources, then enhanced tenure security often lead to higher investment and higher agricultural production which in turn leads to sustainable agricultural development.

Hagos H.G. (2012) also found that households sense of tenure (in)security may come from the perception that someone may challenge their land rights and eventually make them lose their rights to the land which can be affected by past or on-going threats either: (i) due to hazard of expropriation by the government; or (ii) encroachment or eviction by other individuals. However, a households sense of tenure (in)security may not be strictly proportional to the number of land disputes or expropriation the household experienced in the past. The conditions that may increase their perception of risk could be global (foreign interest in land) or related to socio-economic trends of the locality (urban expansion, rural population growth, e.t.c). therefore in addition to the effective risk of losing land rights due to past and on-going land disputes or expropriation by government, the sense of tenure security of households may result from such global or local phenomenon as well, condition by the degree of protection the government offers against such risks.

The Economic Commission for Africa (2003) writes that tenure security is also seen as one of the factors affecting the way households utilize assets. It notes that if tenure is secure, the standard of living is relatively high given available household resources and an environment conducive to production. If tenure becomes insecure however, the household becomes less productive and the standard of living declines. The ECA also notes that since land is central to promoting rural livelihoods in Africa, access to land and security of tenure are the main means through which sustainable economic development can be realized. This is so because over 70% of the population in Africa is mainly linked to land and natural resources exploitation.

Adams (2001) argues that tenure security is basic to human rights and essential if people are to be able to manage their land resources, invest in the land and to sustain their use of it. Feder and Onchan (1987) found that land improving investment were significantly affected by ownership security, and also that ownership security enhances capital formation by providing better incentives and improved access to credit. Roth and Haase (1998) found that farmers with more secure tenure are more likely to make medium – to long –term land improvements because they will be more likely to benefit from investment thus tenure security promotes sustainable resources management. Hayes and Roth found positive relationships between tenure security, the propensity to make long term land improvements, and the presence of trees on a plot. They also found that long term land improvements enhance yield.

Farmers cultivating on informally occupied land face a constant threat of land repossession, crop destruction and even violence from the registered land owners (Mbiba, 1994). Efforts to achieve secure land tenure can contribute to more productive and ecologically sustainable use of agricultural land and

facilitate the use of land as property or collateral for transactions to increase farmers' access to credit (Cheneval, 2006).

Lighton Dube et al write that using a probit model, the findings suggest that (a) under more secure tenure system, farmers are likely to have some longterm investments, in this case in plantation crops, (b) secure tenure is likely to influence investment in property improvement of fixed assets such as fencing and woodlots, (c) secure tenure is likely to positively influence an investment in permanent housing facilities but does not seem to influence an investment in associated infrastructure such as garages, workshops or shades, (d) secure tenure seems to be associated with a higher propensity to invest in improving existing farm infrastructure.

IFAD 2012 notes women are particularly vulnerable because their land rights may be obtained through kinship relationships with men or marriage. If those links are severed, women can lose their rights. Even where more women are heading rural households they often have weak rights to the land they farm, or are denied rights entirely by law or custom, and even by their families. This has thrown many women and their children into poverty. Women are particularly vulnerable because their land rights.

The National Development Plan (2010) estimated that women comprise 70% of the work force in agriculture, they experience unequal access and control over important productive resources like land. This limits their ability to move beyond subsistence agriculture. In wage employment, women are concentrated in the lowest paying sectors, which is linked to their lower education levels; 50% of the employed women work in three lowest paying sectors, compared to 33% of men (2002/ and 2005/06 Uganda National Household Survey). At the household level, women's participation in decision making is also limited; only 51% of women reported participating in major household purchases, and overall men believed that a husband should pay the major role in making most household decisions (Uganda Demographic and Health Survey 2006).

5.0 IMPLEMENTATION OF THE SOCIAL TENURE DOMAIN MODEL

The Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) of the Government of Uganda through the Vegetable Oil Development Project Phase 2 (VODP2) is implementing the use of appropriate and affordable geospatial technologies for mapping land and natural resources tenure rights in Kalangala district. The project, named "Farmer Driven Enumeration", is intended to enhance government's capacity for effective project management as well monitoring and evaluation. The project is being implemented in

partnership with the Global Land Tool Network (GLTN) of the UN Habitat, a coalition of 50 international partners focusing on tenure security improvement and development of pro-poor land tools.

The project was conceived after field visits by GLTN and the Land Tenure Unit from IFAD to the project. The final output of the project will be a software which will incorporate input – output information on the oil palm smallholder farmers in Kalangala with geo-referenced data on the households. The software is capturing information and will produce reports on the information that the project and its stakeholders continuously require. The software also allows for easy validation of the information with the smallholder farmers and therefore allows for participatory monitoring and evaluation.

The process involves farmer-led mapping of farmlands and garden numbering, data collection, data capture, management and analysis, and data validation and updating. The main objectives of the project are:

- i. To document the farmers' tenure rights and conflict mapping
- ii. To capture the impact of oil palm growing
- iii. To assess the productivity of the oil palms in relation to socio-economic factors

Currently, the use and application of geospatial technologies has proved to be practical, user friendly, adds value to effective project implementation and facilitates farmer communities' and partners planning and learning exchange. The tool is also proving very effective for mapping and analyzing the tenure status of farmers through the use of spatial data incorporated with social economic characteristics.

In this context, the project explored the use of appropriate geospatial technologies for addressing some of these challenges. A technical team sensitized the farmer leaders on the technology and process, trained KOPGT staff on its application and implementation and with the communities, tested the tools and related processes customized for the palm oil project. The activities resulted in acceptability of the pilot project and the pilot project was called the "Farmer Driven Enumeration".

6.0 METHODOLOGY

The project set up a team led by the Monitoring and Evaluation Officer and comprising of Statisticians and Monitoring and Evaluation Officers working with MAAIF and Volunteers/ Interns. The team was periodically joined by a Technical Officer from GLTN. The team agreed on schedules for data collection to ensure that the farmers were made aware and spared time to individually participate in the project. On

arrival at the project area, the project team was joined by extension workers and farmer leaders. Below is a detailed breakdown of the steps taken in the data collection process in Kalangala.

6.1 Start-up process

On arrival in Kalangala, the team met the Management and extension staff led by the General Manager (GM). A training was then carried out on the use of the Garmin GPS machine which was used in capturing the geo-referenced data on the oil palm smallholder farmers. The KOPGT team were also taken through the data collection. Pictures 1 to 4 at the bottom show the start up process in Kalangala.

6.2 Data collection process

The joint teams visited the implementation blocks where they had meetings with the farmer – leaders to sensitize them about the activity and then divide themselves out in smaller teams to cover the different units which ensures that the project covers the entire block. The joint team covers one block in each project implementation phase. So far, four of the six blocks have been covered by the project. The smaller teams that cover units are comprised of a project team member, a KOPGT field officer and farmer leaders. The smaller team covers each oil palm farmers garden where the questionnaire was administered, GPS locations of each garden saved, mapping of each garden boundary was done (some farmers have more than one garden), and the GPS location of the farmers home was saved. These farmers leaders were very instrumental in contacting the farmers and introducing the enumerators to the smallholder farmers before an interview would commence. Picture 3 to 18 shows the data collection process.

6.3 Data entry and analysis process

Data collected from the field was stored at the VODP PMU where data entry and analysis was done in a customized STDM database. The data base, designed by GLTN produces reports on each of the key reporting areas from the project including the details of the smallholder farmer, location details of each garden and the farmer's home, tenure information of the farmers gardens and home, area reserved for food crops, the household characteristics, the priority farm inputs required by the farmers and impact of the VODP according to the oil palm farmer.

Acreage	CropName	Category
0.30	Cassava	Intercrop

Figure 1: Editing form for entering garden information displayed during the spatial digitization process

7.0 FINDINGS FROM IMPLEMENTATION OF THE STDM

- 7.1 **Appreciation of GIS by farmers:** Farmers were very happy with the opportunity to participate in the project. Majority only estimated the sizes of their gardens through the number of oil palm trees planted or the sizes that laborers had told them at the time of land clearing for planting of oil palms. After the first block was covered, all other farmers started demanding that their gardens be covered in the enumeration exercise. After measurement of the gardens the farmers were happy to have an accurate measurement of their gardens and said the measurement was critical in their application of fertilizers, contracting of laborers to maintain their gardens, and assessment of their productivity per acre. The farmers are looking forward to the maps showing their garden boundaries. Farmers wrote down the size of each of their gardens and vowed to use it in all subsequent maintenance and harvesting activities.
- 7.2 **Mapping of farmers gardens:** It was realized that it was efficient to have the unit leaders with the farmers or farm managers undertake the mapping of the farm boundary using the GPS for the purposes of calculating the area, rather than having the field team (from VODP, KOPGT, GLTN)

doing the actual exercise. This gave the farmers confidence that they were the immediate benefactors of the data and enabled the capture of accurate boundaries. The presence of neighbors further ensured that where the farmer was not so sure, he together with his immediate neighbor would agree on the boundary.

- 7.3 **Farmers' participation:** The team benefitted from the farmers participating as they even contacted those who were not at their gardens to return and ensure that their gardens were mapped. Farmers who work outside Kalangala had their gardens measured by their unit leaders working closely with the neighboring farmers. This however led to some information on farmers not to be captured.
- 7.4 **Womens' participation:** Registered female farmers actively participated in the exercise. In cases where women had been offered the land on which they had grown oil palm by their husbands or families, they were happy that they finally knew the boundaries of their land and therefore their wealth. Majority of the women were not legally married and were only cohabiting so the initiative greatly improved their security and access to land. In many cases, women had been depending on their husbands even during the harvesting but after participating in the exercise, they identified their boundaries and took on the maintenance and harvesting from their gardens. Where the husbands were getting money from the banks and passing on a sum to the women, the women were now able to estimate their monthly incomes.
- 7.5 **Size of the farmers gardens:** There were discrepancies in the measured acreage versus what the farmers reported to KOPGT (and what was in the KOPGT data base). In some cases, the difference was as much as 4 acres where the measured area was less whereas, in other cases, the measured area was more than the expected acreage. In the case of the former, this was attributed to agents who inflated the acreage when selling land to the farmers so that they could reap maximum benefit based on the size of the land. This has serious implications on both the cash and in-kind loan, especially where the registered oil palm land in the project Management Information System is more than what the farmer actually owns as it makes the loan repayment process risky.
- 7.6 **Maintenance status of oil palm gardens by farmers:** Some farmers were found not to be maintaining their gardens well which was posing a risk to the profitability of the smallholder oil palm scheme. The project challenged these farmers as they were embarrassed when blamed for poor maintenance of their gardens by fellow farmers and unit leaders. Areas covered by the project realized an improvement in the garden maintenance by smallholder farmers.
- 7.7 **Enumeration days:** For the exercise to be successful, sufficient enumeration days should be planned with extra days to cover any extra farmers not covered.
- 7.8 **Allowances for farmer leaders:** Farmers leaders appreciated a modest allowance of Ushs. 10,000 (USD 4) per day which was provided. The allowances boosted their morale.

8.0 CHALLENGES FACED IN THE PROJECT IMPLEMENTATION

8.1 Recent transfer of land from public land to the Buganda Kingdom: During 2014, Government of Uganda returned land to the Buganda Kingdom including part of the “public land” in Kalangala. Some oil palm farmers on public land are not sure whether the land on which their oil palms were grown is still public land under the District Local Government or is now Buganda Land Board Land. Some farmers have abandoned their gardens due to the fear that they will not benefit from that land.

8.2 Incomplete information: In a few cases, incomplete information was collected either due to failure to meet the owners of the palm oil gardens. The farmers who had incomplete data collected will be followed up to ensure full data collection for all oil palm farmers.

8.3 Poorly maintained gardens: Some poorly maintained gardens were not mapped due to the failure by even the smallholder farmers to mark the boundaries of the gardens. In such cases, the smallholder farmers were asked to properly maintain their gardens after which they were mapped in subsequent exercises.

9.0 LESSONS LEARNED

9.1 Transparency: By adopting a participatory and transparent process with the farmers and working with their leaders in the respective blocks, there was a quick buy-in and subsequent ownership of the process by the community. As a result, farmers in adjacent blocks that had not been enumerated were now demanding to be included in the enumeration exercise. The community members, through their local community structures, have become champions of the process by mobilizing and spearheading the enumeration exercise. Consequently, this has also increased the efficiency in carrying out the exercise.

9.2 Securing of farmers land rights: The mapping of garden boundaries and corresponding land rights has highlighted existing overlapping claims as well as the tenure security issues in the District. As a result, the exercise has also provided a platform through which farmers and respective land owners can negotiate and reach a more informed agreement on these overlapping claims. This has attracted more initiatives geared towards improving tenure security as well as using the data in the planning and policy formulation process. Contact and negotiation between oil palm farmers and land owners had been slowed down by the lack of knowledge of the clear demarcations and sizes of the farmers gardens which is an important basis for any negotiations. The farmers requested the team to consider providing some print outs of their gardens which would be an important input into any negotiations with the land lords. The project will provide the much needed information on the extent of the tenure insecurity and will provide information that will be used by partners willing to support farmers to increase their security of tenure.

9.3 GPS skills among the enumeration team and the KOPGT Field Extension Workers: Although initially the team members thought that the project would be complex due to the use of GPS machines which they were not well conversant with, after basic training, they learnt how to use the machines and had no major issues in capturing the points of interest and mapping the farmers gardens. In the first exercise covering Kayunga Block, measurement of oil palm gardens was difficult and in some cases zero measurement was recorded after an enumerator had gone around a large garden. This was not observed in the enumeration exercise in subsequent blocks.

9.4 Implementation of STDM in the oil seeds project area: Learning from the pilot project, replication on the use and application of geospatial technologies and the accompanying farmer-driven process will be customized to the oil seeds component of VODP 2 which will benefit 140,000 households in 51 districts in Uganda, and a bigger impact of using geospatial technologies is expected due to the bigger geographical coverage, bigger targeted project beneficiaries and more complex land tenure and power dynamics.

9.5 Monitoring and Evaluation: the project has supported the process of monitoring the reach and engagement of the project beneficiaries. The project has enabled the validation of project beneficiaries, their plans, budgets, and assessment of the performance of their gardens, receive feedback on the project activities from beneficiaries, identification of issues not covered in the field reports and improved knowledge of the socio-economic characteristics of the project beneficiaries.

9.6 Use of mapping technologies does not have to be expensive: The project has proved that open source software can effectively be used to solve complex land use issues. The Quantum GIS that is used in the project is easy to use and can be customized to carry out specialized tasks. With training from experienced users, the software can produce maps and enable visual representation of project implementation, outcomes and impact.

10.0 PRELIMINARY/ EARLY OUTCOMES

Even though the project is still considered to be at pilot phase, it has already resulted into some early outcomes.

10.1 Estimation of the extent of tenure insecurity to enable planning and policy guidance. From the on-set of the project, the extent of tenure insecurity has been estimated at 70-80%. Because there were estimates, design of specific interventions was difficult. With the Farmer Driven Enumeration project, maps are being generated which will provide evidence and the extent of the tenure insecurity and facilitate the engagement of stakeholders to work together to increase the oil palm farmers tenure security.

10.2 Attracted initiatives to improve tenure security; facilitating negotiations with land owners. Farmers who have already been covered by the farmer driven enumeration are now aware of the

actual size of their gardens and are getting in touch with their landlords for negotiation to buy their land or acquire certificates of tenancy. Negotiations based on actual sizes avoids estimation and interests the land lords to measure the remaining land and decide how best to utilize it.

- 10.3 Land rights on the existing project shown: boundaries, reduce of overlapping claims,** agreement on overlapping claims. This has highlighted the tenure security issues in the District.
- 10.4 Environmental protection, demarcation of forest land vs farm land.** The project is always faced with allegations of environmental destruction. The project has made it possible for the use of geospatial technologies to visualize the historical land use distribution and the current land use distribution. Some areas have now been identified for replacement tree planting and other recommended environmental practices.
- 10.5 Growth poles identified on the island to guide further planning and development:** the project is providing input into discussions between investors, government and local administrations on how to provide more services to the island and how to effectively and sustainably develop the area.
- 10.6 Input into ongoing discussions on land grab, environmental sustainability, palm oil and legal disputes.** The project will provide evidence of the land use changes on the island over the past 15 years and facilitate discussions on how to ensure sustainable and equitable development on the island.
- 11.0 Update of existing shape files of the project area with farmer details.** This has greatly improved the monitoring and supervision of the project activities and enabled the project to document the socio-economic characteristics of their beneficiaries.
- 12.0 Clear demarcation of farmers' boundaries which has reduced land conflicts.** Since mapping involves the participation of neighbors and farmer leaders, the true boundaries of the farmers are being mapped which has ensured that existing conflicts are being sorted out and demarcations are now agreed upon.
- 13.0 Better land use planning by households:** after mapping of the land on which farmers have grown their oil palms and built their houses, the results have also encouraged farmers to consider how best to utilize land between the gardens and their households for example by growing some food crops.

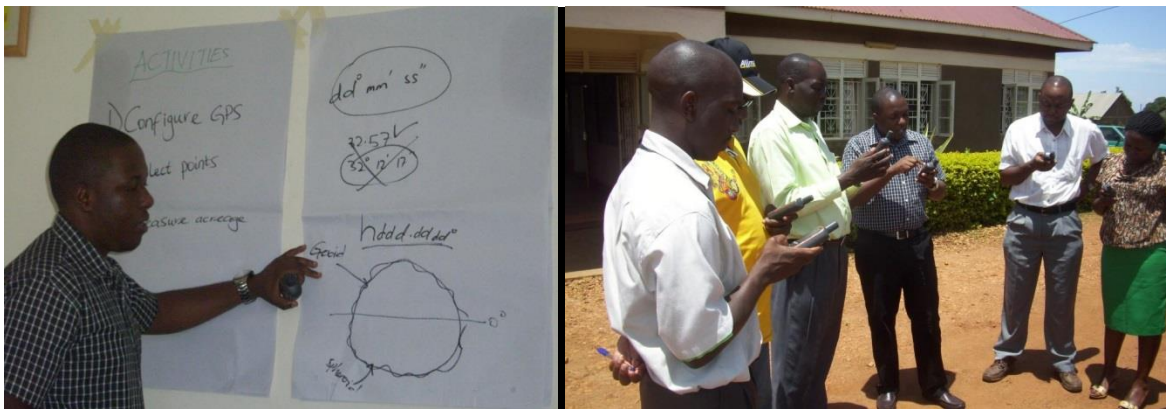
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Photographs from the field



Picture 1 and 2: A team from VODP and GLTN during a visit to Kalangala to discuss tenure security. The project was conceptualized after this visit.



Picture 3 and 4: Training of field extension workers before heading to the field



Picture 5 and 6: Data collection and verification of garden boundaries during field work.



Picture 7 and 6: The mapping exercise requires farmers and data collectors to move around the boundary of each of the plots. Where there are two neighboring plots, the boundary between the two must be identified. Farmers are shown the outcome of the mapping exercise for each garden.



Picture 9 and 10: Capture of GPS coordinates of an oil palm garden both on a GPS machine and a data collection tool.



Picture 11 and 12: The data collection exercise targets all the oil palm farmers. This includes the elderly and women who are worried about their tenure security.



Picture 13 and 14: Ms. Zalwango Betty, a farmer who planted in 2006 in her well maintained garden. She is planning to present the findings of the GIS exercise to the Buganda Kindgom to apply for a certificate of tenure.



Picture 15 and 16: Poorly maintained oil palm gardens. Some farmers are abandoning their gardens due to lack of tenure security.



Picture 17 and 18: Due to the mapping exercise, a farmer discovered that an existing demarcation was not a true boundary of his land.



Picture 19: Most of the farmers are still living in temporary structures even though they are earning good income from their palms due to lack of security of tenure.

Picture 20: One of the few farmers who received a certificate of tenure from the Buganda Land Board has constructed a permanent commercial structure in Kalangala. The inscriptions on the building “Musayi gwa kinazi” mean that the farmer was only able to build it because he grew oil palm.



Erithrina tree (in the foreground) that is commonly used to identify the oil palm garden’s boundary.



VEGETABLE OIL DEVELOPMENT PROJECT PHASE TWO (VODP 2) EXISTING LANDUSE 2014

