

## **An Assessment of Community Participation in Social Forestry Programmes under World Bank Afforestation Project in Kano State Nigeria**



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### **Abstract**

An assessment of community participation and attitudes towards implementation of social forestry programmes during World Bank assisted Forestry II project was carried out. The farmers that participated in the various afforestation activities without receiving any assistance from the project (Late adopters) were used in order to evaluate their responses on the programme. The study was conducted ten years after the project's completion at seven local government areas namely Bagwai, Bichi, Danbatta, D/tofa, Gabasawa, Minjibir and Tsanyawa in Kano state. The findings revealed that the majority of the respondents (71.4%) were aware of the existence of the project since inception but did not participate while 21.4 percent were aware at a later part of the project and only 7.14 percent were unaware completely. Half of the respondents (50.04 percent) attributed their non-participation at the beginning to the lack of access to farm land for tree growing while 25 percent have no confidence in the project itself. However 32.1 percent of the respondents accepted the programme for additional income purposes while 17.9 percent accepted the project as a result of government encouragement through the supply of incentives. The farmers indicated the number of years they spent in the programme. While with 39.2 percent of them joined the activities two years to the project completion (1994), while 10.7 percent started nine years later (2005) as a result of benefits observed from the early adopters. Majority of the respondents (39.3 percent) planted between 50 – 100 trees with a record of 46.2 percent survival while 7.4 percent of the respondents recorded only 10 -20 percent survival. The tree survival under late adopter's effort was generally considered successful using (41 – 60 percent) survival indicator.

**Keywords:** Community participation, social forestry, access to land, late adopters, afforestation activities

### **Introduction**

The increase in the demand of various forest products by the inhabitant of the state had prompted Kano state Forestry II project to mobilize members of the community to participate in social forestry programmes. The effort was meant, not only to provide fuelwood to the teeming populace in the area, but also to halt the menace of desertification. Through Forestry II project, Kano state government has mounted formidable campaigns to encourage the populace to invest in private orchards and woodlot plantations. Some people responded positively to this call and embarked on the planting of fast growing exotic species such as *Eucalyptus camaldulensis* and *Azadirachta indica* on their farmlands. Others were engaged in orchards development programmes for the provision of fruits and income generation (KNAP, 1996).

For these reasons there is the need to sustain the diversity of both the indigenous and exotic tree species and also encourage the involvement of local communities in tree planting. This will enhance the rehabilitation of the forest cover, particularly the degraded areas. Increasing attention for local community-based tree planting and forest rehabilitation is nowadays considered as an innovative response for meeting the conflicting goals of livelihood improvement among the local people and sustainable forest management approach (Ministry for land and forestry Ghana, 1994; Chamshama and Nduwayezu, 2003; Castre'n 2005). Therefore community based rehabilitation activities have often included the promotion of the establishment of plantations (Evans, 1992; Siaw, 2001; Yirdaw, 2002) and the

introduction of sustainable farming systems where trees are grown together with crops in order to reduce pressure on forest and avoid further degradation of forest (Prah, 1997; Appiah, 2001, 2003; Franzel *et al*, 2002). Despite the increasing rehabilitation initiative involving local communities in some other African countries, only few of such initiatives are successful because the local people are poorly involved at initial stage of the project (Appiah, 2001; Galaudu, 2010; World Bank, 2002).

Therefore, there is the need to do everything possible to ensure that the natural resources in the region are managed sustainably in order to prevent the land from further degradation. Poor sustainable management of natural resources through improper exploitation of the trees for various uses and expansion of agricultural land usually resulted in series of encroachment especially on the forested area, which resulted into land degradation. The situation can be minimized through imbibing numerous measures that can improve the sustainable forest development in the area by encouraging people to participate in tree planting activities under various programmes.

### **Research Problem**

Members of community were encouraged to plant trees so as to contribute to fuel wood production and other wood products at minimal cost. In addition, the trees could assist these poor farmers to stabilise and improve their farming systems. Moreover, tree growing was considered to be a man's affairs, while women dominated the procurement of fuelwood and other utility products important for livelihood. Still number of factors reinforced the

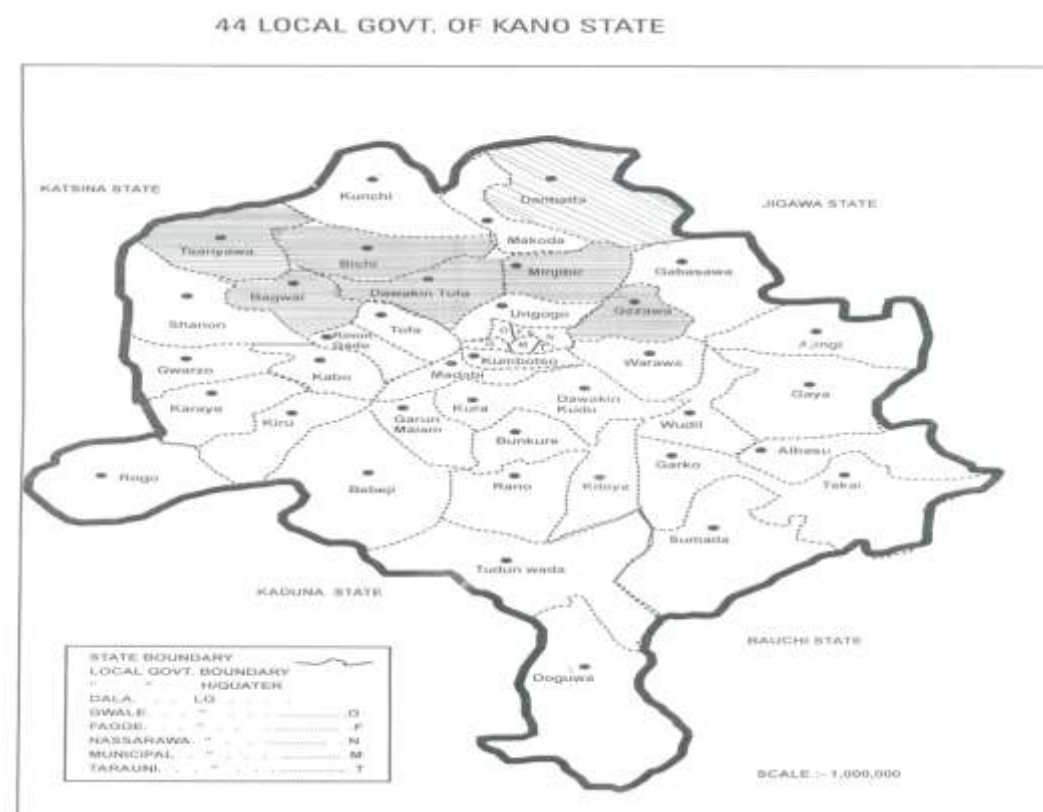
emerging attention on the local forest management and use in Africa, particularly due to the escalating rate of forest loss, which prompted this study.

Also there are some efforts that had change the participatory forest management from passive to proactive involvement of local people in decision making, control and management of the forest where they drew their livelihood from which need to be examined as well. Many countries continued to develop and use their own brand of participatory forestry within the broad understanding and generic concept. As such community forestry stems from the forestry profession efforts to set up a new partnership with local populations in tree management. But involving rural communities in forestry required a new understanding and the recognition of many important links between trees and people. Of particular significance are links

between forestry and basic needs such as nutrition, food security, off – farm employment, and energy (Arnold, 1995).

#### Study Area

Kano state has a total land area of 20,417 Km<sup>2</sup> approximately 4.7% of the total land area of Nigeria. The state is located centrally on the northern border of Nigeria and lying between latitude 10° 30'N and 12° 35' and longitude 7° 44' E and 9° 20'E and also has an altitude of 400 - 750m above sea level. The state has a population of 9,401,288 (NPC, 2006; Leadership, 2009)). However, the research was purposively restricted to the areas of the state that fall within latitude 11° north of the state comprising the following seven (7) local government areas: Bagwai, Bichi, Danbatta, Dawakin Tofa, and Tsanyawa located on longitude 12° N – 12° 30" and latitude 8°. 00 – 9°.00 North West of Kano state whereas Gabasawa and Minjibir were situated on the North Eastern part of the state (Fig. 1)



Source: Cartography unit Geography Department Bayero University Kano 2008.

Kano state, being within the Sudan savannah zone of Nigeria, has a tropical continental climate which is characterized by distinct wet and dry seasons. The period of rain may last for about five to six months, usually from the beginning of May to the beginning of October, with August being the month with the highest amount of rainfall. The dry season starts from the middle of October and last until the month of May. Rainfall is very critical in the region, because of its seasonality. The mean annual rainfall in the southern part of the state is about 1000mm, decreasing to about 800mm around metropolitan Kano, and as low as 600mm in the north and north eastern part of Kano where this study is conducted. Great temporal variation occurs in the amount of rainfall received in the state. The rainfall reaches its peak in the month of August, with 203.9mm. The onset and conclusion of the wet seasons are determined by the arrival and departure of the inter-tropical convergent zones. The rains tend to end early in those years in which they begin late. The average decrease in annual rainfall is 131mm per degree latitude northwards suggesting that the distance from the source of moisture is the dominant factor (KNARDA, 2005, Kowal *et al*, 1978).

Generally, the state has marked dry and wet seasons where the dry season is characterized by wide fluctuation in day and night temperature. The day temperature reached 42 °C, but the range is often between 38 - 41 °C in the northern boundary and 37 - 39 °C at the southern boundary. The lowest temperature of about 20 - 23 °C is recorded between December and February. Temperature during growing season varies between 21 and 30 °C. Relative humidity in the study area seems more or less to follow the rainfall pattern. The moisture content of the air increase in the wet season and the humidity is quite high then. Adeyoju, (1973) reported that relative humidity in the state ranges from 44% in January to about 91% in July. In the cool dry season, the influence of the tropical inter-continental air mass brings dust and dryness. During dry hot season, the relative humidity continues to be low until May, when it rises significantly to herald the approach of the rainy season (Olofin, 1980).

The main traditional land use system in Kano state include rain fed cultivation of agricultural crops, harvesting of economic trees and non-timber forest products, livestock rearing and large scale fadama irrigation. The major economic trees in the

state include *Mangifera indica*, *Adansonia digitata*, *Parkia biglobosa*, *Butrospermum paradoxum*, *Tamarindus indica*, *Spina christi*, *Acacia nilotica*, *Acacia Arabica*, *Acacia albida*, *Azadirachta indica*, *Eucalyptus commendulensis*, *Citrus* species, *Psidium guajava* and *Anarcadium occidentale* etc. The cultivated agricultural crops include *Sorghum bicolor*, *Pennisetum typoid*, *Zea mays*, *Arachis hypogea*, *Manihot esculentus*, and *Oryza sativa*. There are also a host of vegetable crops cultivated by large scale and small scale farmers. The period of fallow was virtually reduced to none due to the intensive farming been carried out in the area. Farmland occupies about 75% of the total land area of Kano state with forest reserves occupying only 5%. Most trees on farmland are those that were preserved and protected for their economic values such as fruits, medicinal, fodder, vegetable and fuelwood. Others were found to be planted through the effort of community forestry initiatives of Knap under forestry II programme (Knap, 1996).

### Methods of Data Collection

This work was carried out using a combination of qualitative and quantitative methods. One of the major reasons of combining the two approaches of data collection in this work is to overcome the issue of limitation if single approach is used at the same time to make the results that was obtained to be acceptable. Before embarking on the data collection exercise, a reconnaissance survey was carried out to identify the members of the communities that were involved in various forms of afforestation activities and those who were not. Thereafter, the issue pertaining to land tenure, type of tree species planted and also required by the farmers in future afforestation programme was investigated. Other variables investigated include the type of plants planted by the farmers and its percentage survival using a formula develop by (Galaudu, 2010) number of trees planted minus number of trees available in the field divided by 100 to give the percentage survival. Farmers' reason for participation and the number of years spent in various programme were identify. The respondents were generally individual local farmers registered and un-registered members of the communities (late adopters). A total of twenty eighty (28) farmers from each location were identified as late adopters and non-participating farmers. This represents 39% of the entire sample population (Table 1). The data generated were subjected to descriptive statistics which are mostly percentage, means, Graphs, charts and tables.

S/No	L/Govt.	EA (O)	EA (W)	LA (O/W)	SHG (N)	NPF	Total
1	Bagwai	0.0	12.0	4.0	8.0	4.0	28.0
2	Bichi	1.0	6.0	4.0	8.0	4.0	23.0
3	Danbatta	3.0	13.0	4.0	8.0	4.0	32.0
4	D/Tofa	2.0	3.0	4.0	8.0	4.0	21.0
5	Gabasawa	2.0	12.0	4.0	8.0	4.0	30.0
6	Minjibir	2.0	3.0	4.0	8.0	4.0	21.0
7	Tsanyawa	0.0	5.0	4.0	8.0	4.0	21.0
	Total	10	54	28	56	28	176
		(15.6%)	(84.3%)	(43.8%)	(87.5%)	(43.8%)	(55.%)
	Average	1.4	7.7	4.0	8.0	4.0	25.1

(Sources: Field survey, 2007) Censors of EA (O) = early adopters engaged in orchard, EA (W) early adopters in woodlot LA (O/W) = late adopters in orchard/woodlot, SHG (N) NPF = Self-help groups engage in nurseries NPF = Non-participating farmers

## Result and Discussion

### Late Adopters Level of Project Awareness

The late adopters are the groups of farmers who have join the project activities at a later time after noticing the benefits derived by the early adopters of the programme. Late adopter's opinion was sought on their level of project activities awareness. The majority of the respondents (71.4%) among the late adopters were discovered to be fully aware of the Forestry II project existence since inception (Fig 2). While another group of respondents (21.4%) reported their level of project awareness after the project completion i.e. after World Bank funding was terminated. The result also finds that only 7.14% of the respondents reported their level of project awareness very recently. Considering the number of those who were aware but unable to join the project suggested that the majority of the late adopters did not join the project deliberately. Lack of farmer's confidence on the project or lack of enough farm land to be dedicated to the programme must be their limiting factors to participation. Considering the fact that the information obtained revealed that the project was able to make adequate awareness campaign on the importance of community involvement in tree planting and other benefits of the tree plantings which some people find it difficult to accept at the initial stage of the project which was adopted later.

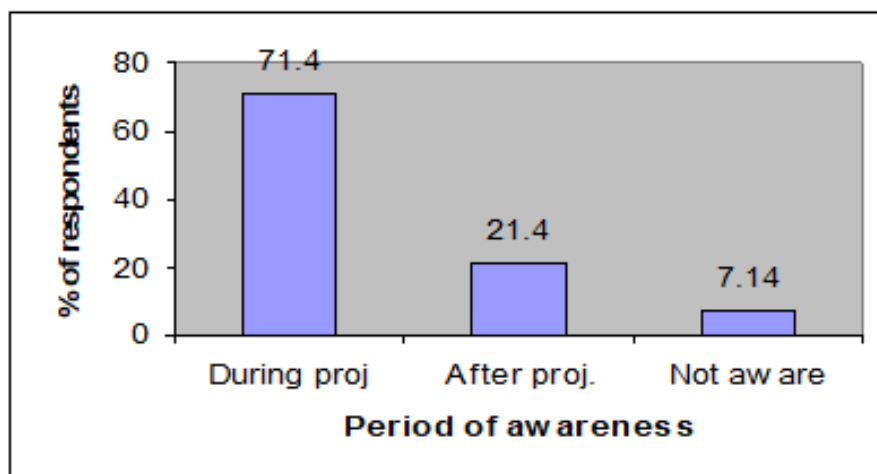


Fig 2: Level of project awareness among late adopters

### Reasons for Not Accepting the Programme Earlier

The majority of the respondents (50.04%) attributed their inability to join the project earlier the lack of farm lands since most of the respondents among the late adopters had no farms of their own at that time while the lowest number of respondents 3.6% indicated other reasons for their non-participation at early stage. Also 25% of the respondents refuse to join the project for lack confidence on the programme considering the kind of incentives given. They believe that government hardly gives

incentives free and allow you to reap your sweat. But others (17.9%) attributed their inability to join at initial stage to lack of enough farm land to be devoted for tree planting. Considering the fact that the real benefit to be drive was not certain and more over they prepare cereal crops more than trees at during the period. Another group of farmers (17.9%) attributed their inability to join the project to frustration from the none collection of incentive from project officials (Fig3).

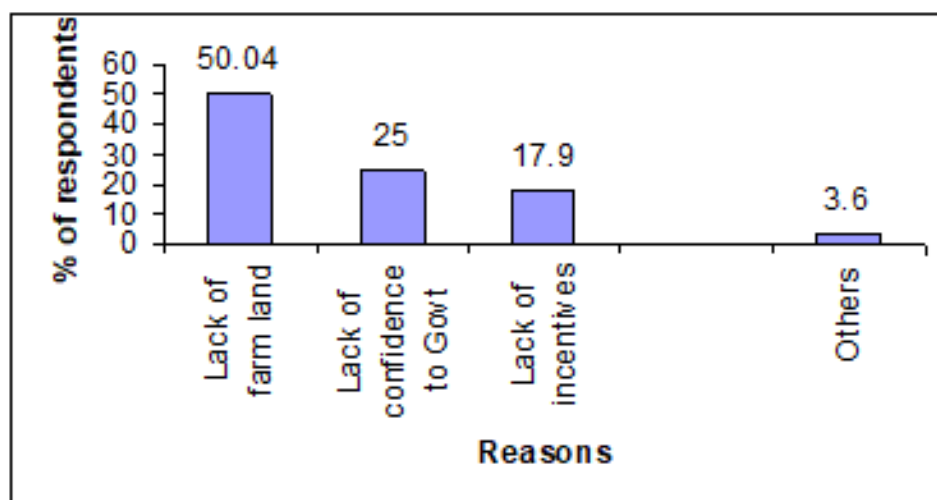


Fig 3: Reasons for not accepting the programme earlier

Therefore, future projects need to carefully study the situation in the area before embarking on incentive deriving programmes and should seek for communities' opinion on the type of incentives they required.

#### **Reasons for Accepting the Programme Later**

These groups of farmers (late adopters) were not registered by the project as such they received little assistance from the government. The results revealed that the majority of the late adopters (32.1%) accepted the programme for income generation activities (Fig 4).

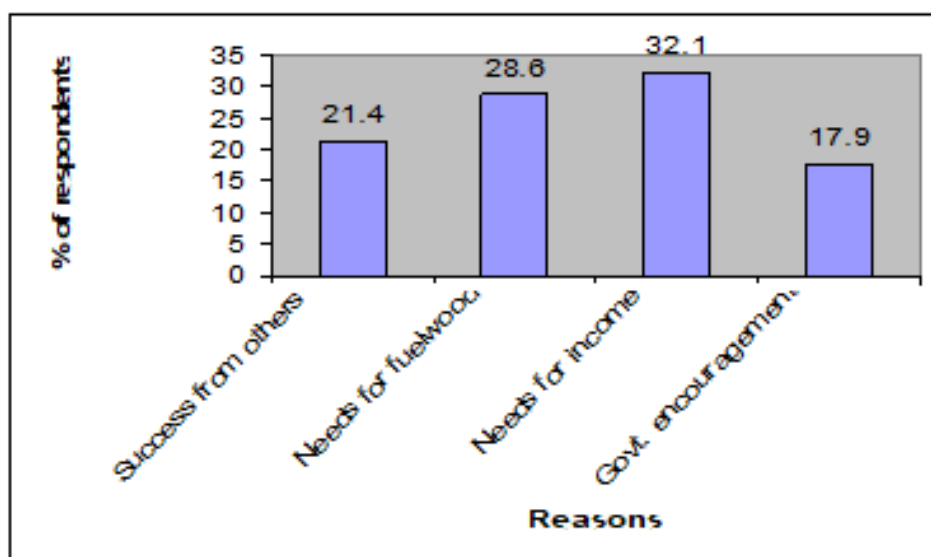


Fig 3: Reasons for not accepting the programme earlier

They discovered from the early adopters who were successful and reaping a lot of benefit from their trees. Apart from the monetary benefit directly received by the early adopters, they obtained the required fuel wood for domestic consumption from their plantations that prevented them from spending their money on fire wood any longer. Other group of about (28.6%) of the respondents joined the programme in order to secure fuel wood, whereas 21.4% accepted the programme as a result of the success noticed among the early adopters in terms of access to various forest products. Among the late adopters, 17.9% of them accepted the programme due to government

encouragement of providing working inputs such as seedlings, fencing materials and training among others to the early adopters.

#### **Number of Year's spent in the Programme by Late Adopters**

For the period spent on the programme, the majority of the respondents (39.2%) spent between 11 and 15 years (1994 – 1998) on the project while about 25% of the respondents spent between 16 and 20 years (1989 – 1993) and another 25% spent between 6 to 10 and (1999 – 2003) on the programme (Fig 5).

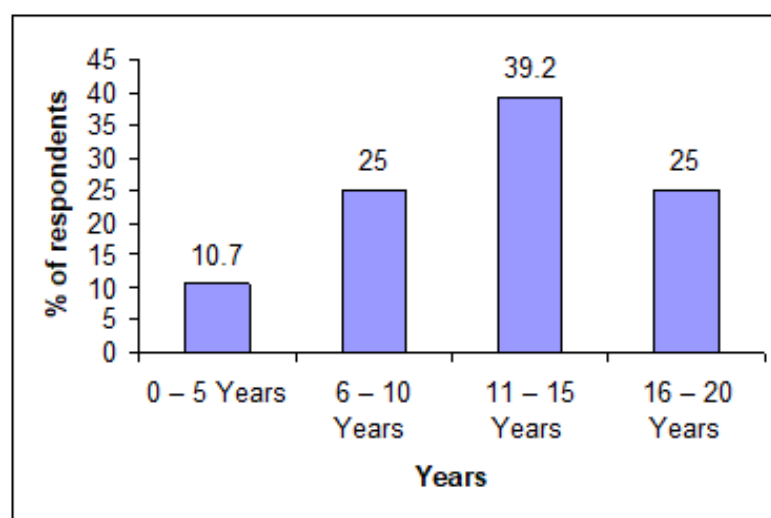


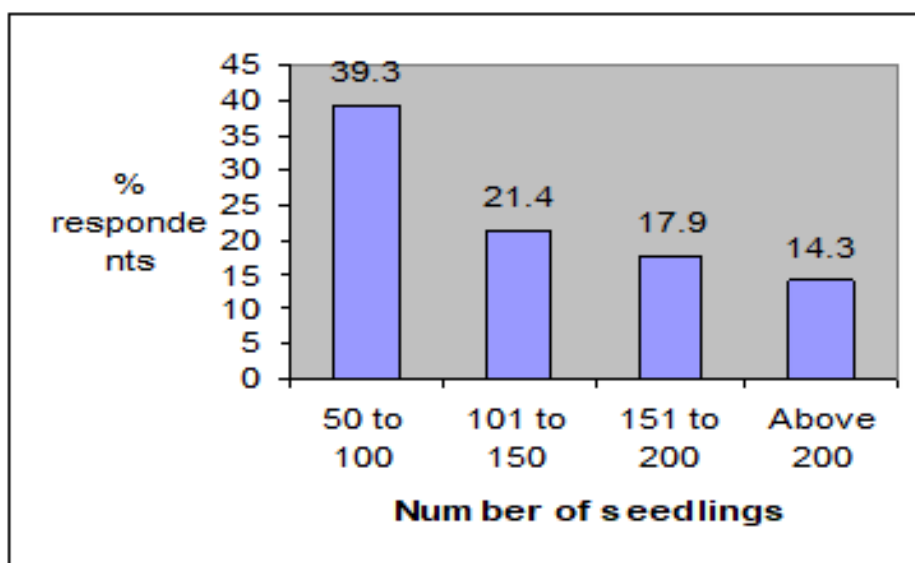
Fig 5: Number of years spent by late adopters in the programme



The lowest proportion (10.7%) of other respondents joined the project not more than five years ago. The only groups that joined during the project active time were those in the 11 to 15 years (1994 – 1998) category and by 1994 the project was virtually at the stage of completion. At that stage most of the incentives given to farmers were no longer available, so farmers that newly joined were not given any assistance. Likewise farmers that joined the programmes during the last 13 years did not receive any benefits because the project had already completed its implementation stage indicating the disadvantage of late adoption of the programme.

#### **Average Number of Seedlings Planted and Survive by Late Adopters**

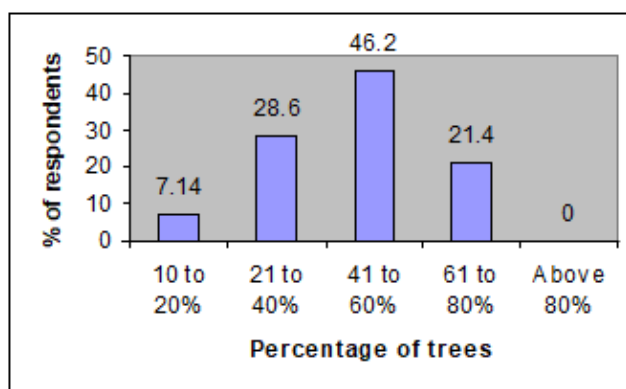
In order to investigate the level of late adopter's commitments towards tree planting under different programmes, the number of seedlings planted by the groups was analysed. Majority of the respondents (39.3%) were able to plant trees within the range of 50 to 100 trees and the least (14.3%) of the respondents planted about 200 trees on their farms (Fig 6). The result revealed that the level of late adopter's commitments towards planting trees was low considering the number of trees planted by the majority. The commitments on the other hand can be considered as encouraging, because many of them were not supported with any incentives at the time they join the programme.



**Fig 6: Average Number of seedling planted by late adopters**

The survival rate was also categorized into ranges of percentage (Fig 7). Those that were able to manage trees and obtained survival rate of 50% and above were considered to be successful and below 50% threshold were regarded as unsuccessful. The results revealed that the majority of the respondents (46.2%) were within the survival rate of 41 to 60% of the seedlings planted and none of the respondents

attained seedlings survival of above 80%. A very low percentage of the respondents 7.14% manage trees within survival range of 10 to 20%. This was regarded a success start. Their efforts could be considered a commendable one, because most of the late adopters lack the technical knowledge of tree management as such they operated independently.



**Fig 7: Percentage of trees survived under late adopters**

### Type of Trees Species Required by Late Adopters

In order to know the species of trees that will be of interest to the farmers in future Afforestation project in the area, information were obtained from the respondents (Fig 8). *Eucalyptus camaldulensis* and *Azadirachta indica* the two major species chosen for woodlot development by the community. Among the

responses 50% of them indicated their interest in *Azadirachta indica* as their choice of species for future Afforestation activities. This means that woodlots are more important than orchard development programmes considering the choice of species indicated by the majority of respondents.

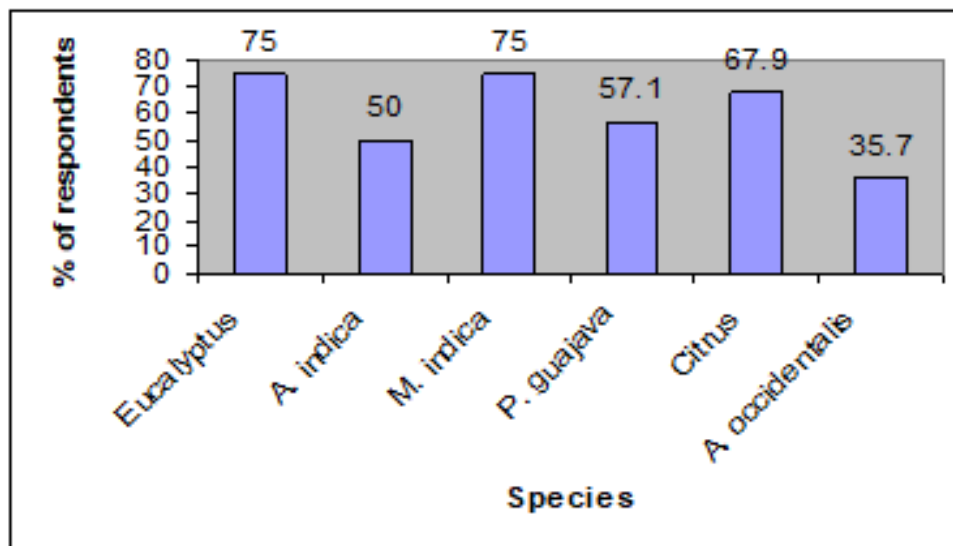


Fig 8 Trees species of interest by late adopters

### Type of inputs required from government by the late adopters

Seedlings are among the inputs that must be available before embarking on any Afforestation activities. Therefore, all the farmers indicated their need for tree seedlings. Many farmers, constituting 82.1% of the respondents, indicated their desire for fencing materials from the government, whereas, 67.9% indicated their desire for training on silvicultural techniques. Others, constituting about 57.1% and 35.7% require land and cash incentive respectively to enable them to effectively grow

trees (Fig 9). These groups of farmers were not opportune to receive any inputs previously because they were not among the contact farmers identified by the project. Never the less, they were willing to participate in future Afforestation programmes provided government is willing to support them with required inputs. Lack of the supply of the required inputs to the farmers was a source of concern, because many of the farmers won't be able to afford most of the important inputs required to start their operation.

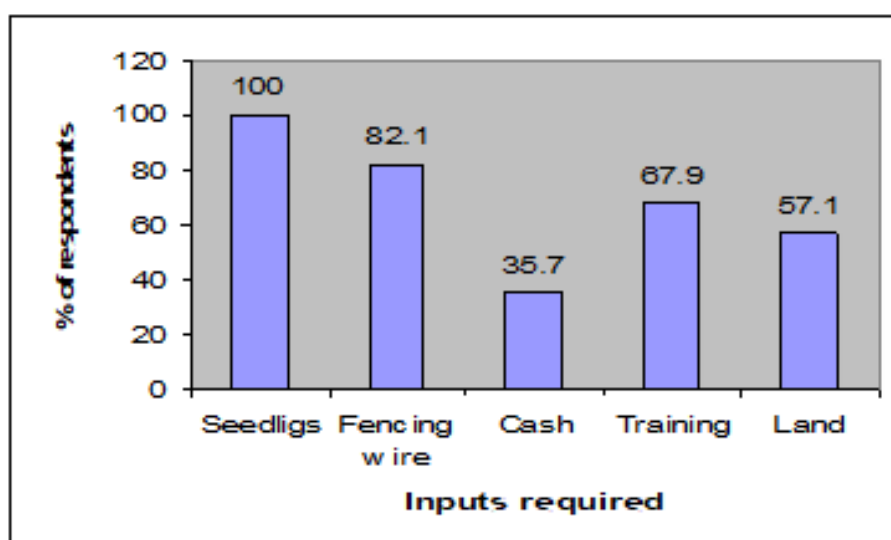


Fig 9: Type of inputs required from government by the late adopters

Farmers were asked to indicate the type of inputs they received with the view to identify the adequacy and relevance of such inputs to their overall performance (Fig 10). All the farmers indicated that they received free seedlings and training from the project officials. The Other farmers that constitute 81.4, 80.0 and 70.9 percent of the respondents received fencing wire, poles and cash incentives respectively.

The result revealed that the project was able to supply most of its early clients with certain working inputs to enable them to operate successfully. However, in the case of late adopters they were unable to receive any assistance because some of them

joined the project late. Lack of certain working inputs mostly fencing material and cash incentives had deterred their performance. Some farmers revealed that during the early stage of their plantings, lack of fencing had allowed stray animals and even human to encroach and destroy their plants. This was why many of the respondents put more emphasis on the need for the project to supply them with fencing material among the type of inputs required. Considering the current cost of fencing materials, if the future project fails to provide farmers with the materials needed, many of the willing farmers may not be able to participate actively.

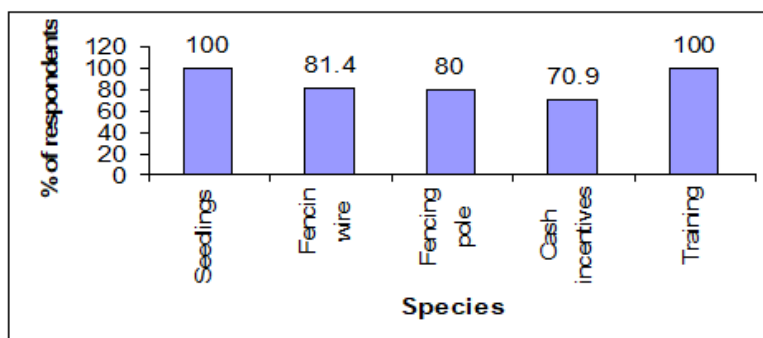


Fig 1 0: Types of inputs received by the farmers from the project

## Conclusions

Despite mass enlighten campaign organised by the forestry II project on the importance of tree planting with associated benefits to the general public in the study, some farmers in the area continue to be skeptical towards participation at the initial stage, due to loss of confidence on similar past government programmes. In addition to that it was concluded that the inability of some farmers to actively be involved early was due to lack of adequate land for the exercise. However as a result of inputs supplied to the farmers such as nursery equipment, fencing materials and training in nursery operation, many farmers were encourage to participate in to the programmes. As a result of that increase in trees density have been reported in the area through which farmers were reported to have planted between 50 to 100 seedlings with survival rate of 40% to 60% of the seedlings planted. Eucalyptus and *Mangifera indica* have been the dominant tree species promoted by the project which had increased the farmer's access to various forest products and income level. And despite some farmer's late adoption of some farmers into the program, their involvement in afforestation activities was considered very successful.

## RECOMMENDATIONS

Based on the conclusion derived it is recommended that:

1. Future social forestry projects should continue with World Bank approach of mass public enlightens campaign on the importance of tree planting and its socio economic benefits.
2. The use of available marginal and degraded lands around the community areas should be encouraged with a view to encourage reclamation efforts and

sustainable land use.

3. Government should provide adequate and relevant inputs to the farmers and other supports
4. Local community should be involved in decision making of their project and also on the choice of tree species to be promoted in their locality in order to promote acceptance.

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