

Project Working paper No. 18

Training Impact Evaluation Report for Kitui and
Mwingi Districts' Farmers (Kitui Centre)

Presented by Working Group on Training Effect
Evaluation for Training sub-committee (TSC)

Prepared by J.Kamene
June 1997

Kenya/Japan Social Forestry Training Project.

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Introduction

Kenya/Japan Social forestry Training Project (SFTP) has implemented several courses at Kitui Centre since 1988. The Kitui training programme is geared towards offering practical knowledge and skills to grass root level persons such as individual farmers or groups, women, teachers, front-line extension staff and community leaders. The target area has been Eastern province. However, the project has at times gone beyond the target areas, to other spheres on special request as for the case of Taita Taveta district in cost Province.

This survey was done for 18 farmers from Mwingi and Kitui districts among those who attended farmers' and women's training courses in Kitui centre between 1991 and 1994. The pre-surveys had been conducted previously before the respective courses while the main survey was conducted during a workshop held in June 1996 at the Kitui Centre.

Training impacts were determined by comparison of tree planting activities before and after training by 18 farmers. The former and the latter data were researched by use of pre-survey and main-survey questionnaires respectively. The results of the data analysis are discussed in this report.

RESULTS OF THE SURVEY

- 1. Background
- 1.1 Housing Materials

The type of housing materials used by an individual farmer depends on their level of income or status in most Kenyan communities. The rich can afford to use stome materials while the moderate do use burnt bricks and the rest use unburnt bricks or mud and wood.

Fig. 1.1.1 House Materials

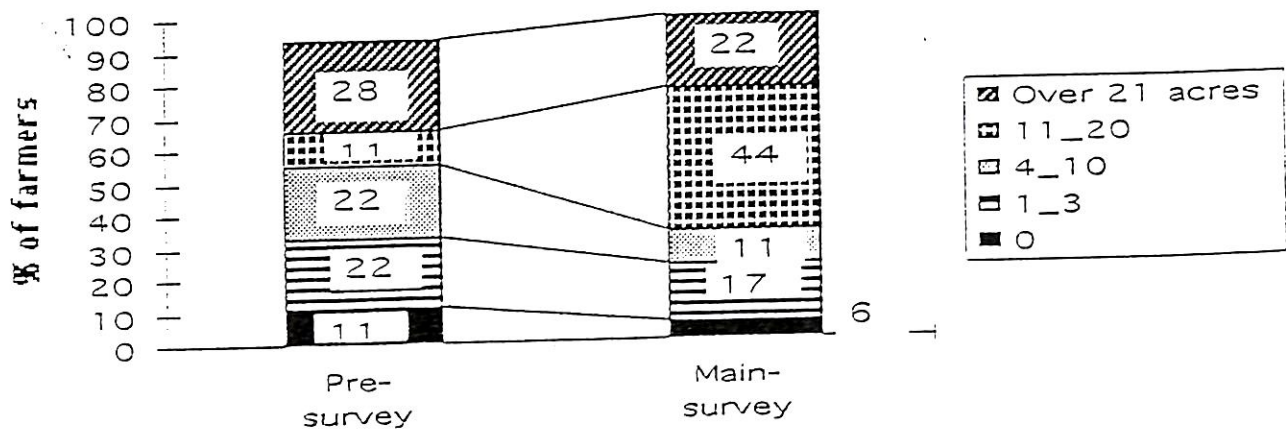


At the pre-survey time, 55% of the farmers had burned bricks houses, 28% had houses made of unburned bricks while only 17% had mud and wood houses. However, at the Main Survey time the number of farmers having houses made of unburned bricks reduced from 28% to 17% which could be attributed to the more investment on good housing by the farmers.

1.2. Grazing land.

28% of the farmers had over 21 acres of grazing land while 11% had no grazing land at the Pre-survey time. Fig. 1.2.1 shows an increase of farmers with 11-20 acres of grazing land from 11% to 44%. Those without grazing land reduced from 11% to 6%. However, farmers with 1-3 acres, 4-10 acres and over 21 acres reduced dramatically. The increase was noted to be mostly for farmers from Mwingi which is newly occupied hence land is adequate. For farmers from Kitui the reduction could be due to population increase hence loss due to inheritance.

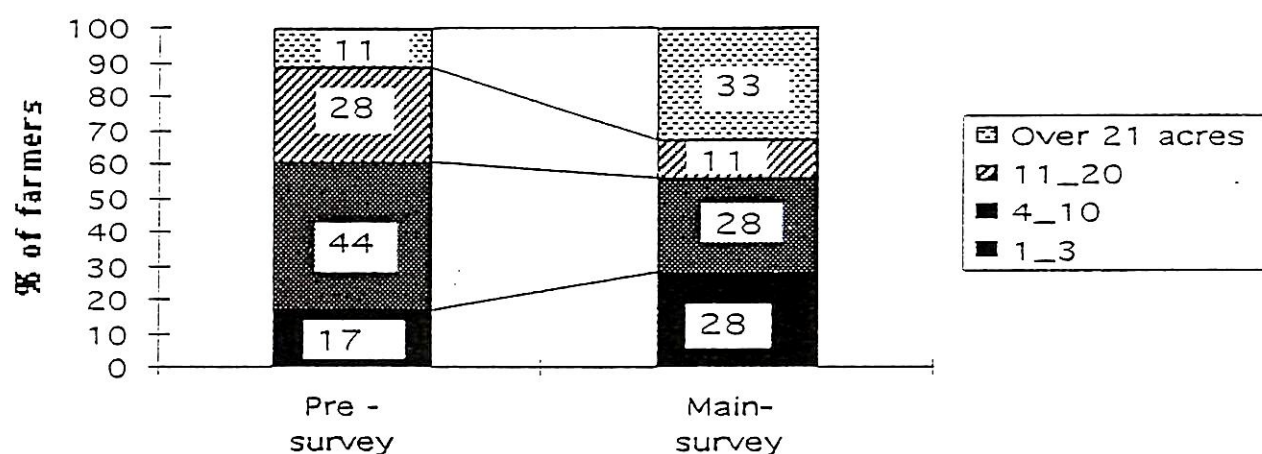
Fig. 1.2.1. Grazing land (acres)



1.3 Farmland

44% of the farmers owned 4-10 acres shamba, and 28% of them owned 11-20 acres at the pre-survey time. During the same period, 17% of them had 1-3 acres while only 11% had over 21 acres. Figure 1.3.1 shows an increase of farmers having over 21 acres from 11% to 33% which could be due to clearing of more land for cultivation especially in the remote areas such as Mwingi with low population.

Fig. 1.3.1 Farmland (acres)



1.4 Livestock

The livestock owned by individual farmer is an indicator of the wealth and social status of that farmer in most Kenyan communities living in the Semi-arid areas. Most of such communities rely on pastoralism, fully or partially. At the Pre-survey 55% of the farmers had 1-10 heads of cattle, 17% had 11-20 heads of cattle, 6% had over 21 heads while 22% had none. 55% had 1-10 goats and 17% had over 21 while 17% had none. The percentage of farmers without any cattle heads had not changed during the Main Survey. Generally an average farmer had 1-10 cattle and 1-10 goats. However, the percentage of farmers having goats reduced by a very small percentage. This could be attributed to drought occurrence which necessitates the reduction of livestock in most arid regions. More than half of the farmers did not have sheep at both the Pre-survey and Main-survey time.

Fig.1.4.1 Cattle

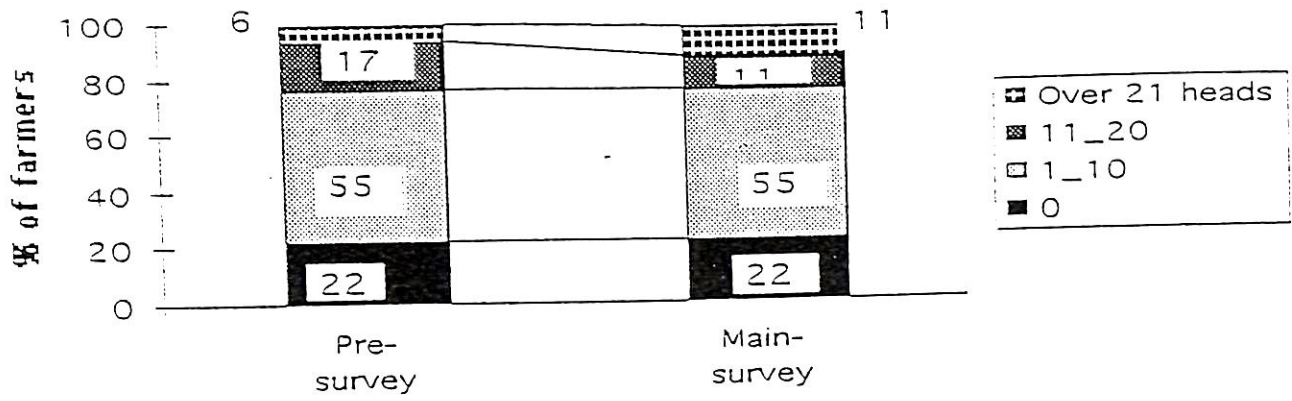


Fig. 1.4.2 Goat

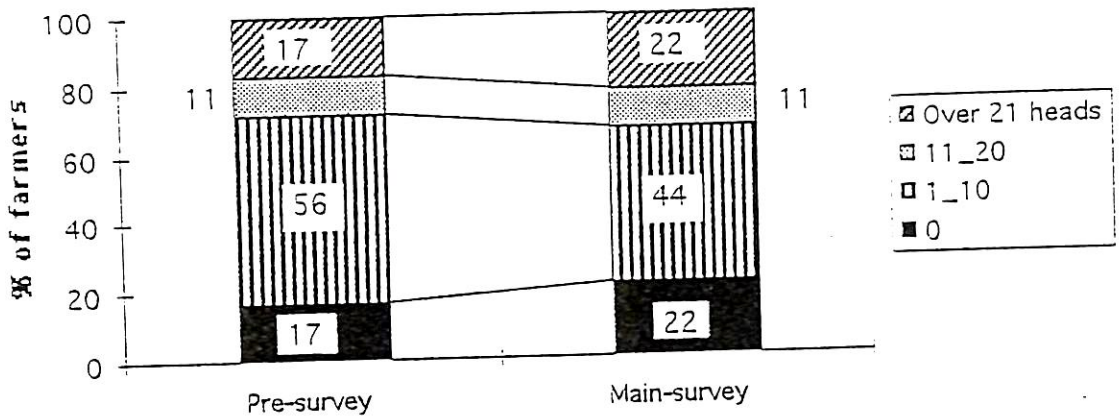
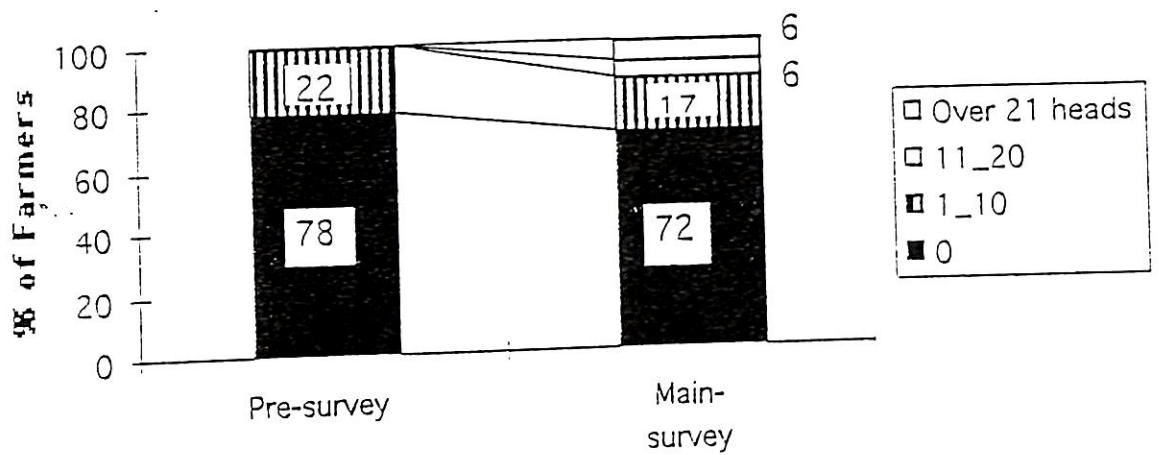


Fig. 1.4.3 Sheep

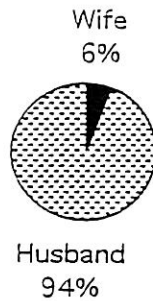


2. Attribute

2.1 Land Ownership:

The main survey data revealed that for all the farmers, the land was owned by husband except for one case where land was owned by the wife. It is therefore concluded that in most cases, land ownership is entitled to the husband in most families represented in this workshop.

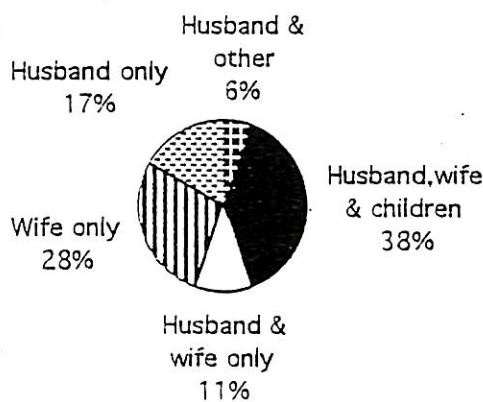
Fig. 2.1.1. Land Ownership



2.2 Land cultivation:

From the Main-Survey data, it was observed that land cultivation is mainly done by husband, wife and children while others have minimum contribution. This indicates that both men and women participate in this activity although more women than men do cultivation as indicated by Fig. 2.2.1.

Fig. 2.2.1 Land cultivation



2.3 Group Membership and Activities.

Group organization is a very important aspect in enhancement of community development. Working in groups makes the work easier and the members assist one another. In tree planting group activities have proved to be very effective. However, group organization is not easy due to disunity, conflicts among members, struggle for group leadership and poor distribution of accrued benefits among other problems.

At the Pre-survey time 94% of the farmers were group members while at the main survey time the number reduced to 83%. This could be a result of group disunity or other individual problems among the group members. 60% of the farmers who were group members at main survey belonged to groups composed of women while only 40% of them belonged to groups composed of both sexes. No purely male groups were indicated by the farmers. 73% of the farmers who are group members belonged to groups that were active in tree planting activities.

Fig. 2.3.1 Group membership



Fig. 2.3.2. Group Constitution

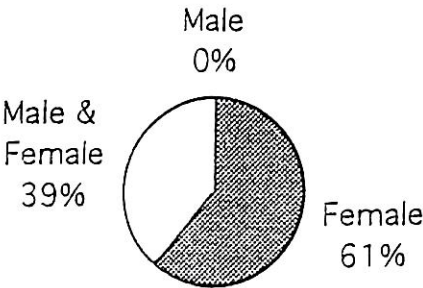
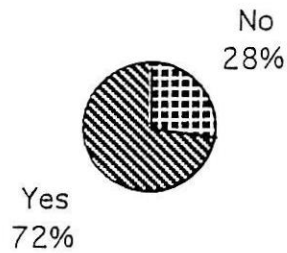


Fig. 2.3.3. Groups planting trees



3. Tree Planting activities

3.1 Involvement in tree planting except fruit trees.

Before training 94% of the farmers had been involved in tree planting but after training all the farmers got involved in this activity. This implies the positive impact of training in increasing the interest of the farmers in tree planting, even though the difference is low

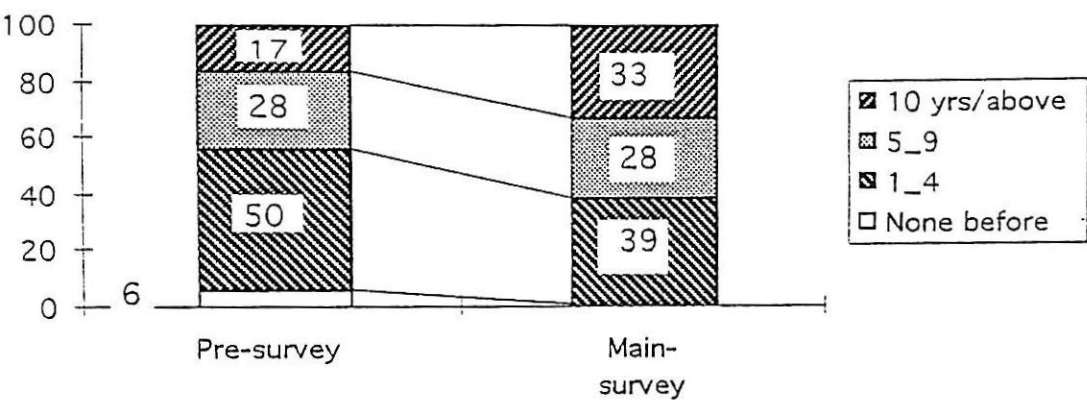
Fig. 3.1.1.
Involvement in tree planting



3.2 First time tree planting

The presurvey data indicates that 50% of the farmers started planting trees 1-4 years ago and due to time passage, this reduced to 39% during the main survey. The percentage of farmers who had planted trees 5-9 years did not change before and after training. The farmers who had planted trees 10 yrs/more increased from 17% to 33% due to time passage. The fact that most farmers had started tree planting before training shows the need to provide a forum for farmers where they can air their views and discuss the problems they encounter in tree planting activity. This implies that half of the farmers had started tree planting just 1-4 years before attending the training, thus necessitating the need for training which offered technical knowhow on tree planting.

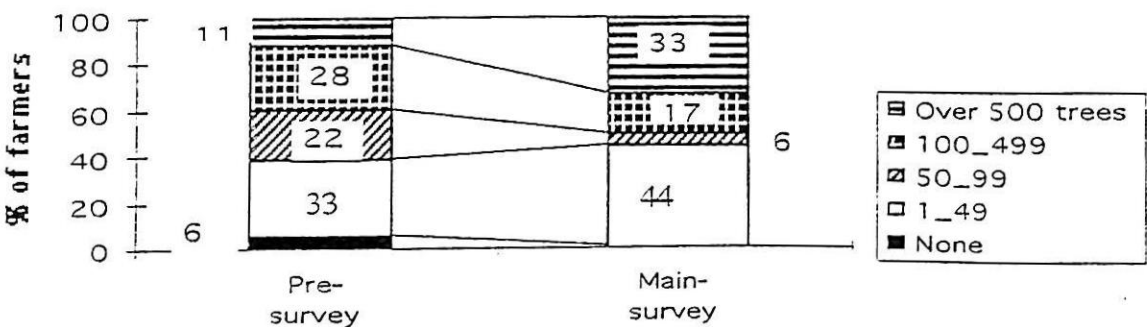
Fig. 3.2.1 First time planting



3.3 Number of trees planted upto date

Before attending the training only 39% of the farmers had planted over 100 trees but after training 50% of them planted more than 100 trees. The number of farmers who had planted 1-49 trees increased from 33% during the Pre-survey time to 44% during the Main survey. This shows the positive impact of training in encouraging farmers to plant more trees.

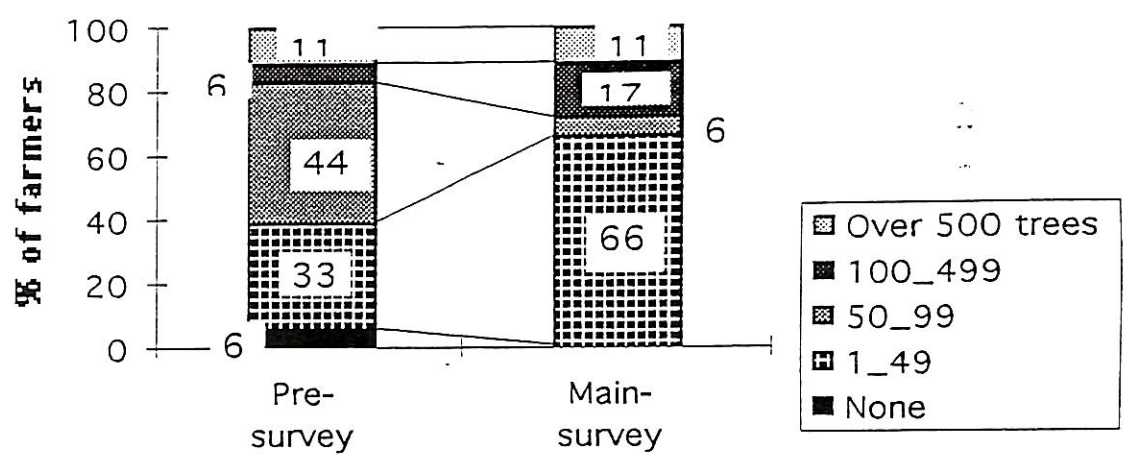
Fig. 3.3.1 Number of trees planted upto date



3.4 Number of surviving trees:

For 66% of the farmers, the number of surviving trees was still under 50 - even after training. Discussions with the farmers during the follow-up workshop featured that there had been a serious drought facing their areas since 1995 hence they had not been able to plant many seedlings and those planted experienced low survival rate.

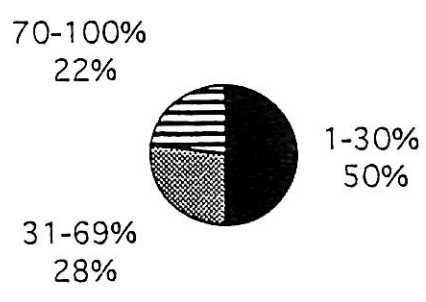
Fig. 3.4.1 surviving trees



3.5 Trees Survival percentage

The main survey data indicates that 50 % of the farmers had only achieved 1-30% survival rate. 22% of them had achieved 70-100% survival rate. None had 0% survival rate. This indicates that despite the effects of drought, the farmers still made efforts to grow some trees and manage them properly.

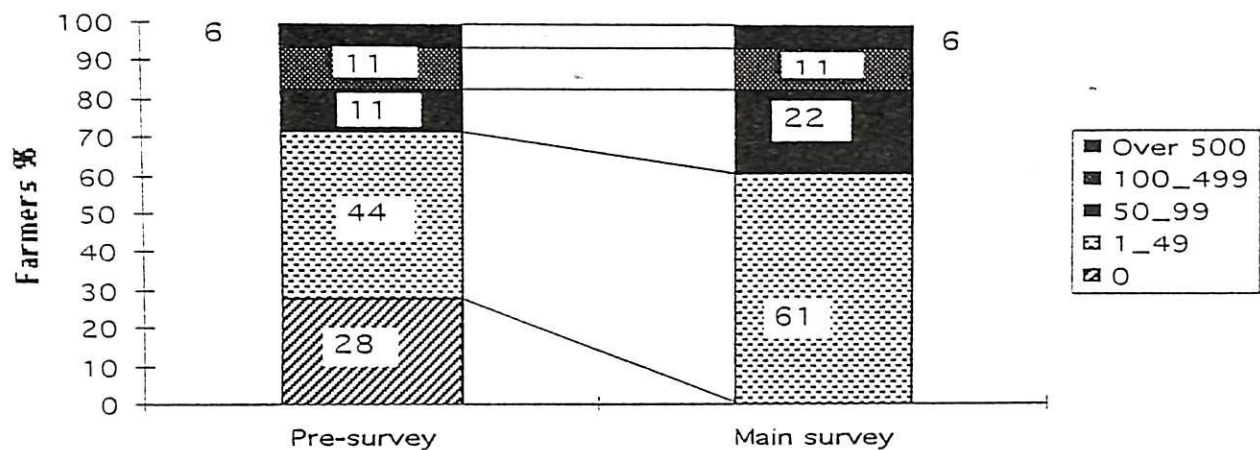
Fig. 3.5.1 Trees survival percentage



3.6 Seedlings planted within the last one year

The Main Survey data showed that after training farmers who planted 1-49 seedlings had increased from 44% to 61% and those who had planted 50-99 seedlings increased from 11% to 22%. At Pre-survey time 28% of the farmers had not planted any trees within the last 1 year yet after training all the farmers planted trees despite the conditions. This is a very clear indication of the motivating effect of training on farmers' interest in tree planting.

Fig. 3.6.1. Seedlings planted last year



4.0 Trees planted on each place

Farmers mostly plant trees in their compounds, boundaries, farms or grazing land.

4.1 Trees planted in the Compound

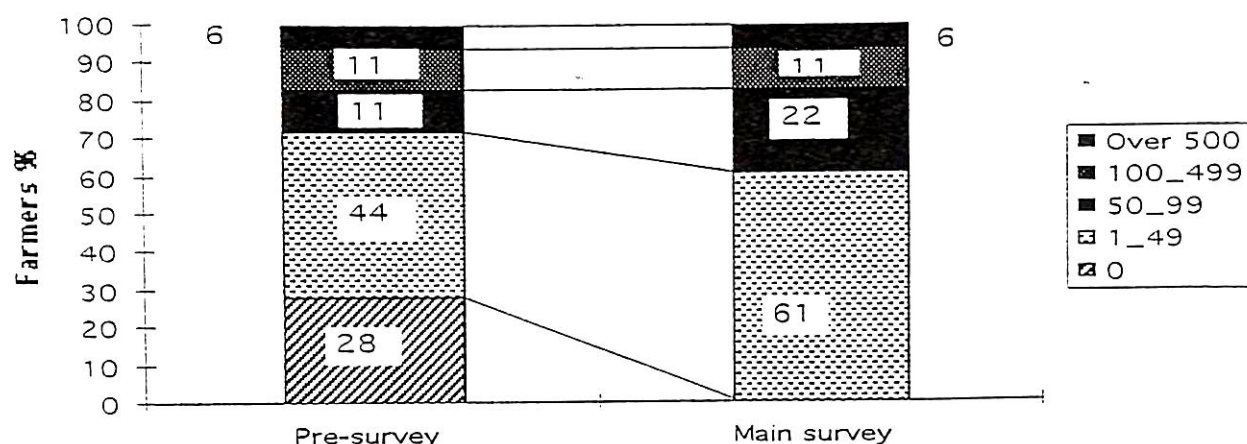
Each farmer had at least a tree in their compound. 33% of the farmers planted either *cassia siamea*, *Azadirachta indica* or fruit trees in their compound. 17% of them had planted different *Acacia species* as well as *Grevillea robusta*. These were the most common species for home compounds. The rest had been planted but by few farmers. On average a farmer planted 105 trees of two species, the minimum being 1 species and the maximum being 5 species. The highest number of trees planted was 1800 for *Aberia caffra* and the lowest was 4 for *Acacia species*. These trees had been planted mostly to provide shade, windbreak and fruits. Other purposes included medicinal uses, soil conservation, firewood, fodder, fence, poles and for sale among many others.

The average survival rate for compound trees was 76% the maximum being recorded being 100% and the minimum being 50%.

3.6 Seedlings planted within the last one year

The Main Survey data showed that after training farmers who planted 1-49 seedlings had increased from 44% to 61% and those who had planted 50-99 seedlings increased from 11% to 22%. At Pre-survey time 28% of the farmers had not planted any trees within the last 1 year yet after training all the farmers planted trees despite the conditions. This is a very clear indication of the motivating effect of training on farmers' interest in tree planting.

Fig. 3.6.1. Seedlings planted last year



4.0 Trees planted on each place

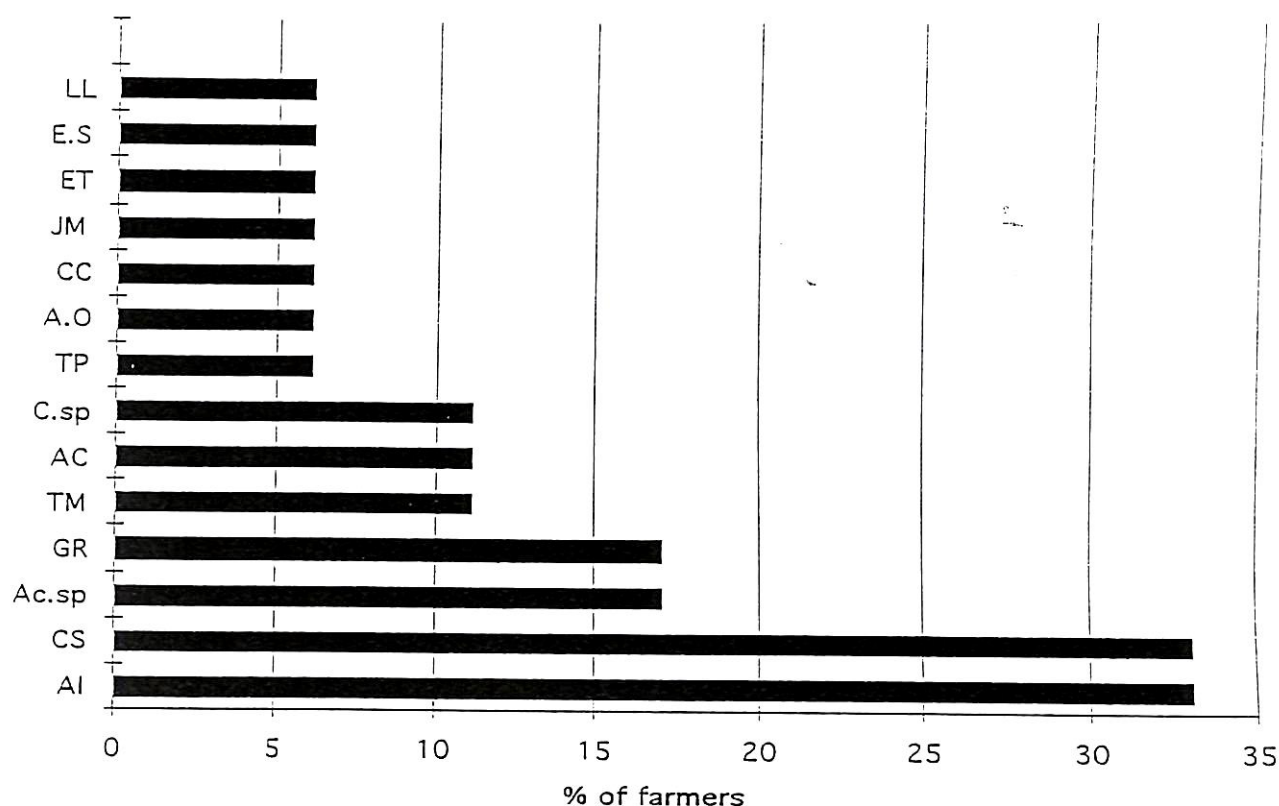
Farmers mostly plant trees in their compounds, boundaries, farms or grazing land.

4.1 Trees planted in the Compound

Each farmer had at least a tree in their compound. 33% of the farmers planted either *cassia siamea*, *Azadirachta indica* or fruit trees in their compound. 17% of them had planted different *Acacia species* as well as *Grevillea robusta*. These were the most common species for home compounds. The rest had been planted but by few farmers. On average a farmer planted 105 trees of two species, the minimum being 1 species and the maximum being 5 species. The highest number of trees planted was 1800 for *Aberia caffra* and the lowest was 4 for *Acacia species*. These trees had been planted mostly to provide shade, windbreak and fruits. Other purposes included medicinal uses, soil conservation, firewood, fodder, fence, poles and for sale among many others.

The average survival rate for compound trees was 76% the maximum being recorded being 100% and the minimum being 50%.

Fig. 4.1.1. Surviving tree species in compound

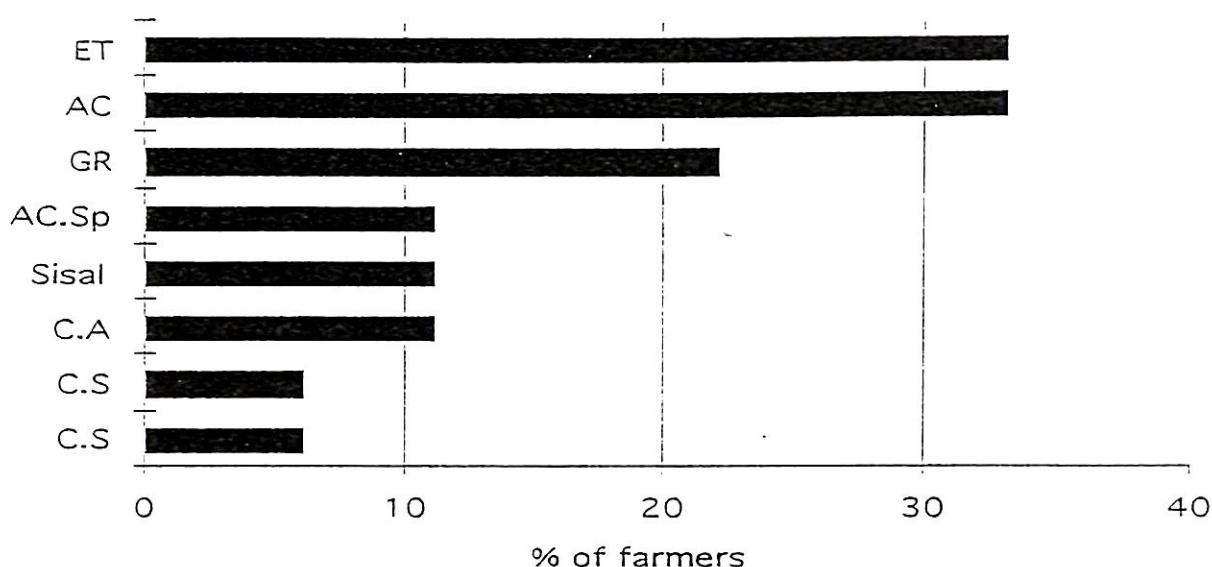


4.2 Trees planted on Compound Boundary:

8 different species had been planted but differently by different farmers on this particular place. 33% of the farmers had planted either *Aberia caffra* or *Euphorbia tirucalli*, 22% of them had planted *Grevillea robusta* while 11% had either *Eucalyptus species*, *Commiphora africana* or sisal. An average farmer had planted 544 trees of 2 species. The highest number of trees planted was 5600 for sisal and the lowest was 5 for *Acacia species*. The main purpose of the sisal was to provide building poles and materials for making ropes.

Most trees planted in the compound were for the purposes of boundary marking or fence, protection, windbreak and timber among many others. The average survival rate for compound boundary trees was 84%, the maximum survival rate recorded being 100 and the minimum being 50.

Fig. 4.2.1. Surviving tree species on compound boundary



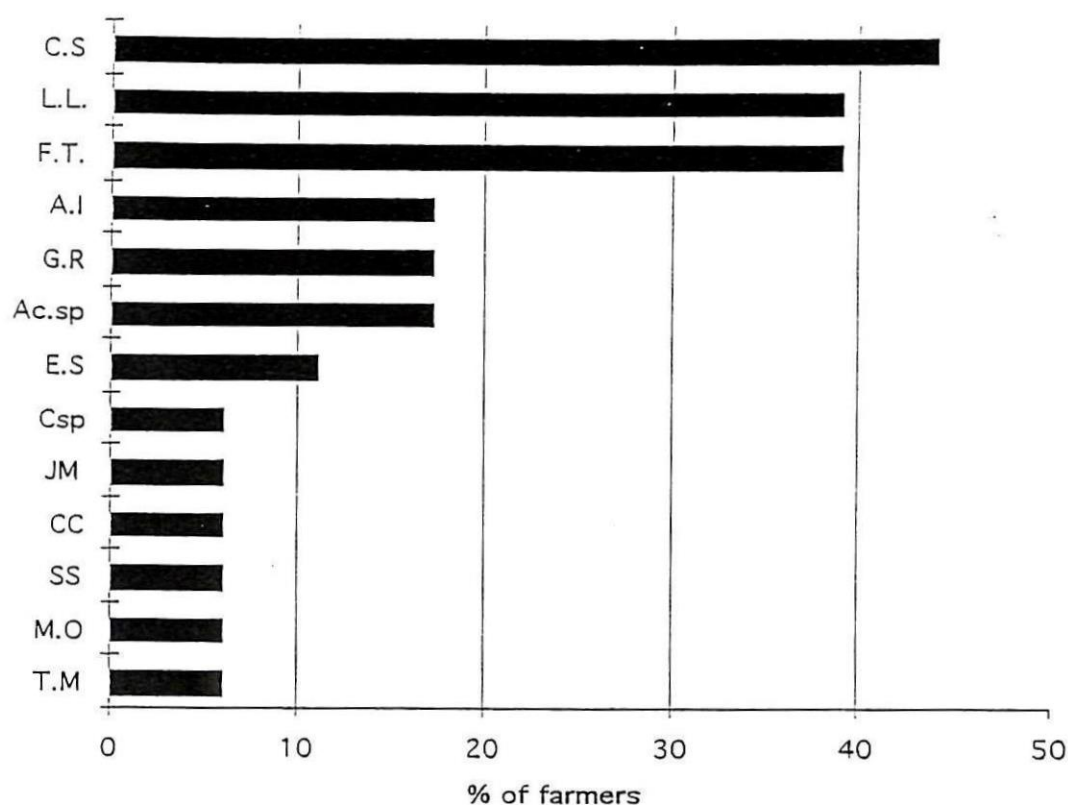
4.3 Trees planted in the farm

44% of the farmers had mainly planted *Cassia siamea*, while 39% had planted fruit trees or *Leucaena leucocephala* and 17% had *Azadirachta indica*, *Grevillea robusta* or *Acacia species*. The other species were planted by very few farmers.

An average farmer had 2 or 3 species on his/her farm and an average total of 68 trees. The average survival rate for farm trees was 83%. The farm trees selected were mainly for the purpose of addition of organic matter or manure to the farm, provision of fruits, fodder, firewood, medicine poles or other materials for sale.

From this data, it is very clear that these farmers had known how to select species appropriate for their farms. However, the application of tending techniques such as pruning, thinning, and lopping among others to ensure minimum competition for water and nutrients between trees and crops cannot be deduced. All together some of these species are multipurpose trees hence appropriate for Agroforestry.

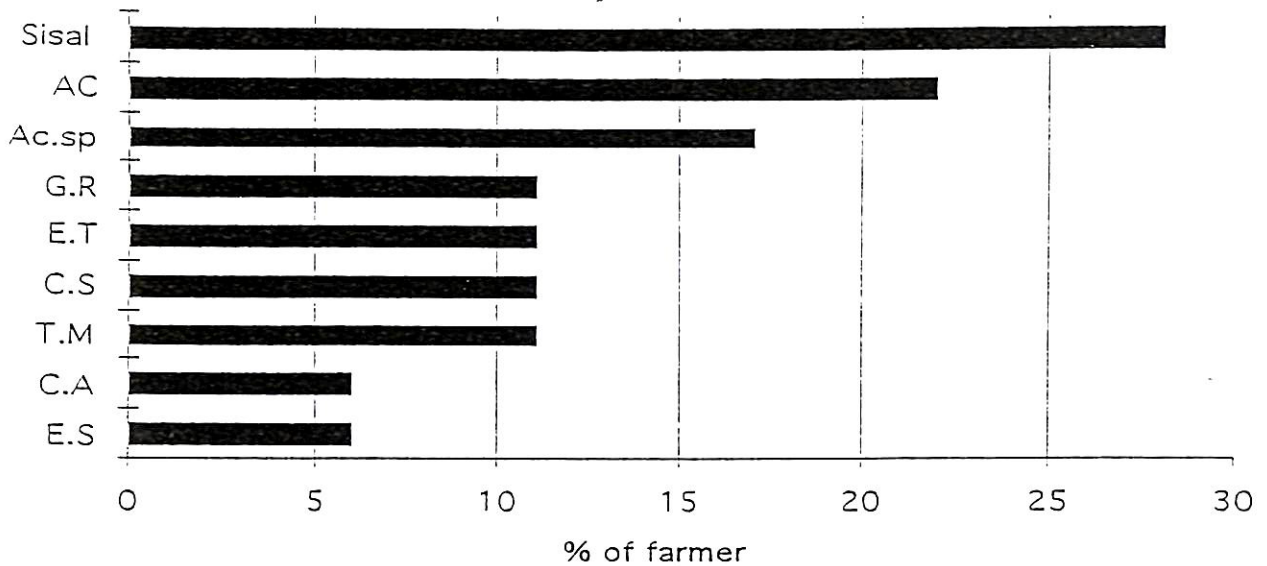
Fig. 4.3.1 Surviving tree species on farm



4.4 Trees planted on the farm boundary

A total of 9 different species had been planted by the farmers in their farm boundary. On average a farmer had at least one species and 1100 trees with the maximum number being 14000 for sisal, and the minimum being 8 for *Acacia species*. Sisal seem to be commonly used by more farmers for the purpose of boundary marking, fibre and protection of farms. The other species were also planted for same purposes as sisal but also for provision of live fence and windbreaks. 28% of the farmers had planted sisal, and 22% had *Aberia caffra*, 17% of the farmers had *Acacia species* and the rest of the species were planted by 1 or 2 farmers. The average survival rate was noted to be 89%.

Fig. 4.4.1 Surviving trees on farm boundary



4.5 Trees planted on Grazing land

Only 56% of the farmers planted trees on their grazing land. One farmer had planted 300 stem cuttings of nappier grass for probably fodder provision. 39% of all the farmers had planted *Leucena leucocephala* and 22% had *Acacia* species or *Grevillea robusta*. The main purpose for most of these species was indicated as provision of fodder, firewood and poles. The average survival rate for these species was noted to be 95%. On average a farmer planted about 40 trees. It is still necessary to encourage the farmers to plant suitable trees and grass species as a way of managing their grazing land sustainably.

Fig. 4.5.1 Trees planted on grazingland

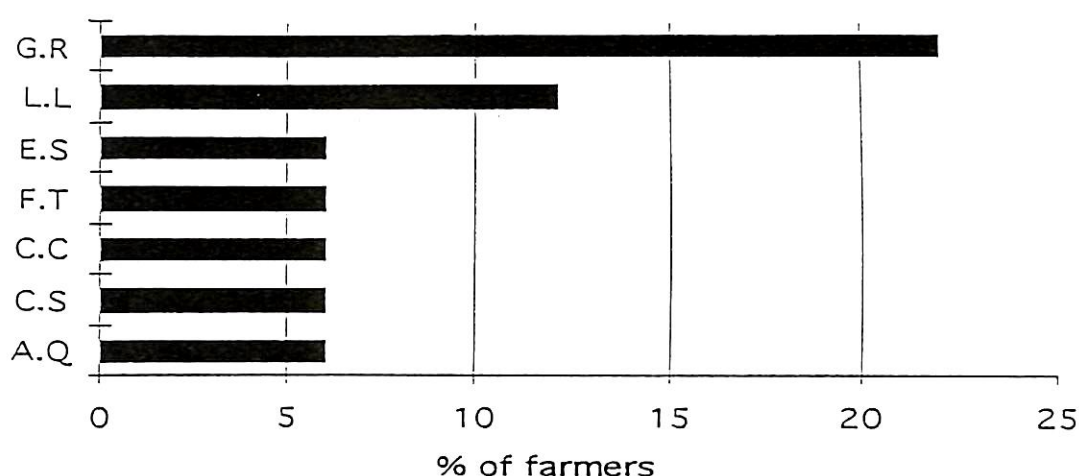


4-6 Trees planted in other areas

Only 39% of farmers planted trees in other areas which could be along river banks or streams. Most of these farmers had preferred *Grevillea robusta*, and 11% of them preferred *Leucaena leucocephala*. About 7 different species had been planted in other areas. The average survival rate for most of the trees was noted to be 76%. Most of these farmers had planted 1 or 2 species. One farmer had planted 890 *Grevillea robusta* trees which could have been probably for poles and timber. *Grevillea robusta* seem to be one of the most preferred species by most farmers despite its susceptibility to termite attack.

Generally more species were planted on the compound (15 species) followed by farm (13 species). Very few trees were planted on the grazingland and other areas even though the indicated survival rate is high. Therefore it can be concluded that most farmers prefer to plant different species in their compounds and farms.

Fig. 4.6.1 Surviving trees in other areas

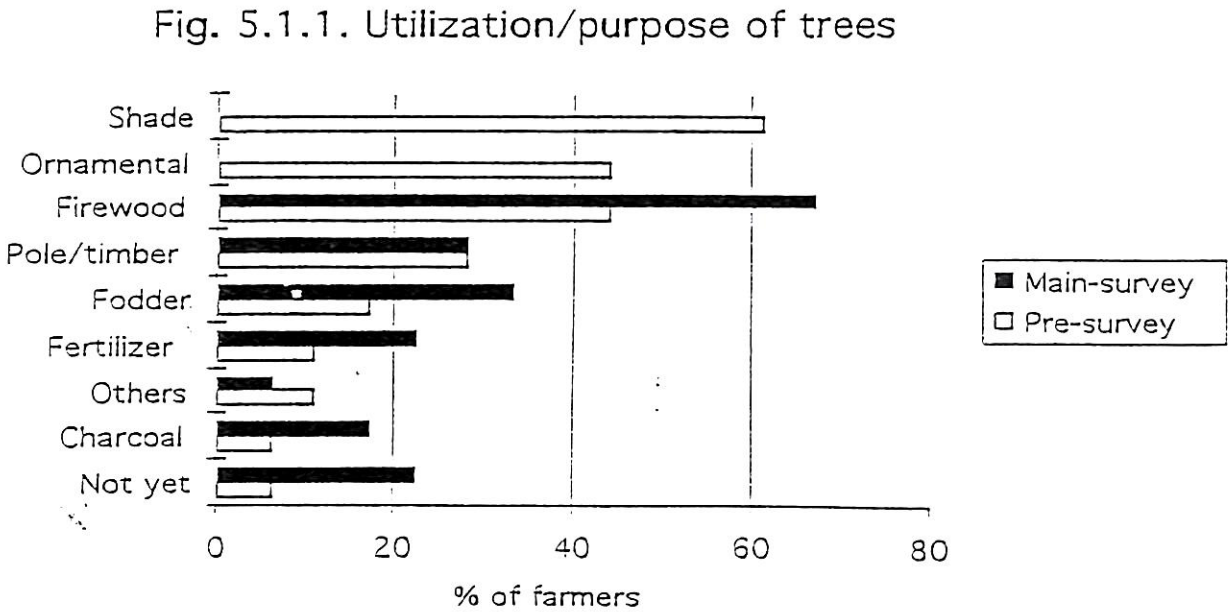


5.0 Utilization of planted trees

78% of the farmers had used their trees in one way or another at main survey time. Most of the farmers had used their trees for firewood provision and then fodder. Only 17% of them used their trees for charcoal production. 22% of the farmers had not made use of their trees because they were not yet mature for utilization. The responses of farmers may not be compared directly as far as the pre-survey and main-survey forms are concerned. However, the following observations and comments can be made.

a) At the Pre-survey time, 61% of the farmers indicated shade provision as the most common purpose for planting trees while for main survey, firewood purpose was indicated by 67% of them. This could be explained by the fact that, with time farmers are encountering firewood crisis more than before and that the training offered made them to realize the necessity to plant more trees for future fuelwood provision.

- b) The use of trees for firewood provision was still an important purpose for planting them even before training . 44% of the farmers had planted trees for firewood as well as for ornamental purposes at presurvey time.
- c) Planting of trees for pole and timber utilization by farmers had not changed at both the pre-survey and main survey times.
- d) The utilization of trees for fodder had been realized as very important after training. 33% of the farmers were utilizing their trees for fodder as compared to 17% at the pre-survey time.
- e) The use of trees in enhancing soil fertility had become more vital after training. The percentage of farmers using trees for this purpose doubled after training hence a positive impact of training.
- f) Utilization of trees for charcoal production had also become more considerable after training. It is therefore necessary to educate the farmers on economic use of both charcoal and fuelwood by enlightening them on cheap and easily available energy saving jikos.
- g) Even though not highlitened in these two surveys, during the workshop discussions, some farmers commented that after training they had made traditional medicines from trees for home use and concoctions for termite control. Hence the use of trees for medicinal purposes is becoming popular with time and this is an indication of the positive impacts of training.



6.0 Income Generation

6.1 Forms of selling tree products

50 % of the farmers had got income from sale of trees constantly or often .39 % of them had used their trees for domestic consumption and 11% were expecting to generate income from their trees in future.

The most common forms of sale were poles , firewood and timber but firewood form is the most preferred .Income generation from sale of trees products act as a motivating factor for farmers as concerns tree planting activities. Some farmers reported of good income through sale of seedlings .

In relation to this, it is necessary to enlighten the farmers on processing and marketing of the products. Therefore, this needs close attention so as to help the farmers reap more benefits from tree planting activities and even motivate them to establish more of their onwn tree stands.

Fig. 6.1.1. Getting income

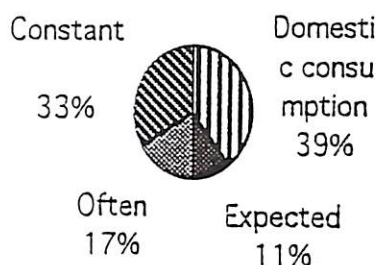
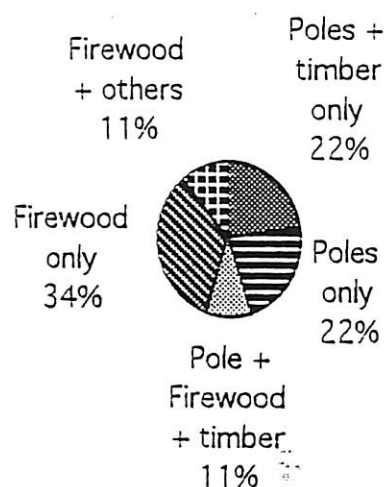


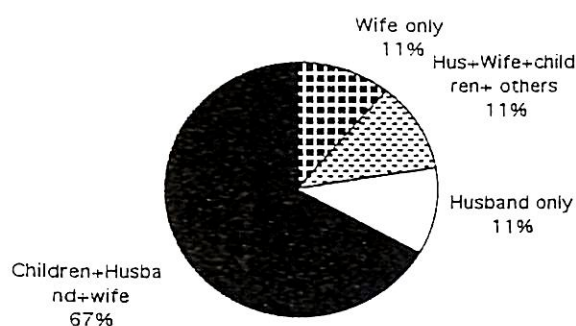
Fig. 6.1.2. Forms of tree sales



6.2 Beneficiary

67% of the farmers who generated income through sales of trees reported that the husband wife, and children benefited most from the income. This supports the necessity to train both men and women on tree planting because they benefit equally as per the data collected. Only one farmer responded that only the wife benefited. Another farmer also revealed that only the husband benefited. In most of the cases, the whole family benefited.

Fig. 6.2.1. Beneficiary

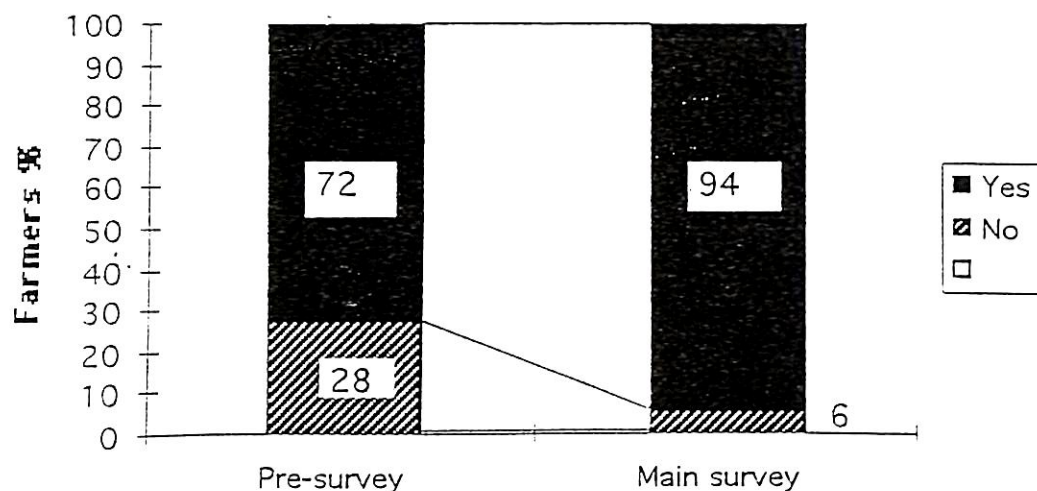


7.0 Nursery activities

7.1 Nursery establishment:

At the pre-survey time, 72% of the farmers had nurseries and 28% had none. However, the main survey data indicates that the number of farmers raising seedlings in a nursery increased from 72% to 94%. Only one farmer lacked a nursery even after training. This is a very good indicator of the positive impacts of training. The techniques learnt in small scale nursery establishment had been put into practice.

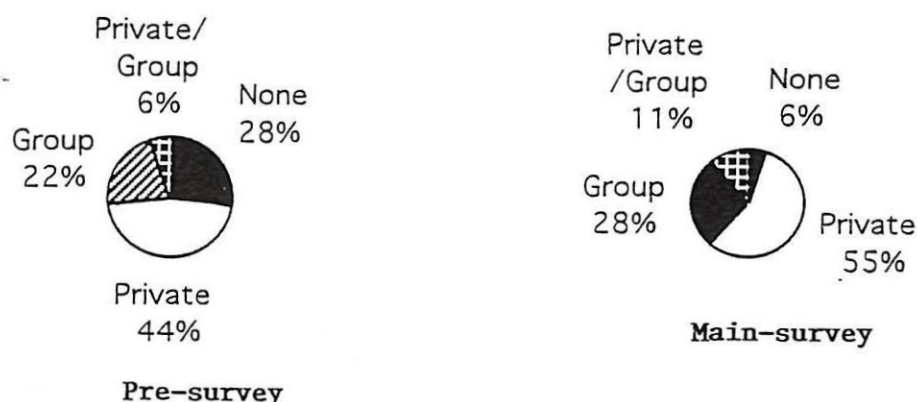
Fig. 7.1.1. Owning a nursery



7.2 Types of nursery.

At the pre-survey, 44% of the farmers indicated that they had private nurseries and 22% of them had group nurseries. However, the main survey data indicates an increase of farmers owning private nurseries from 44% to 55% and group nurseries from 22% to 28%. Farmers owning both private and group nurseries increased from 6% to 11%. Those without any kind of nurseries decreased from 28% before training to 6% after training. This is an indication that knowledge and techniques on nursery establishment had been imparted successfully and that farmers had increased participation in raising both private and group nurseries.

Fig. 7.2.1 Types of nursery



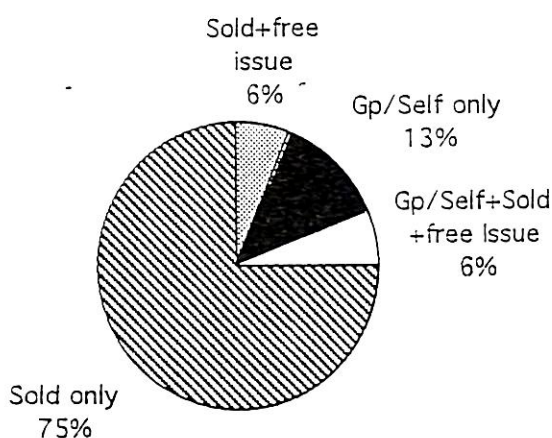
7.3 Number of seedlings

The number of seedlings in nurseries owned by farmers varied from individual to individual. Generally the average number of seedlings per nursery owned privately by a farmer increased from 1175 at pre-survey time to 3,278 at Main Survey time. However, for group nurseries the average number of seedlings decreased from 2310 at pre-survey time to 2185 at main survey. This could be attributed to the fact that farmers pay more attention to their private nurseries where they are the sole beneficiaries as compared to group nurseries.

7.4 Use of seedlings

The main survey data indicates that 75% of the farmers sold their seedlings to earn income. 13% of them used their seedlings for only self or group purpose. 6% raised seedlings and used for group/self, sale and issued freely to others. Most of the farmers had recognised that the sale of seedlings could earn them good money, hence got motivated to continue establishing nurseries with more seedlings. This creates awareness of nurseries importance to the surrounding farmers buying from them, therefore knowledge on nursery establishment was directly/indirectly disseminated to others.

Fig. 7.4.1 Use of seedlings



7.5 Changes of Nursery activities

Most of the farmers acknowledge that they had acquired new techniques on nursery establishment and application of this knowledge had helped them to raise more seedlings in their private and group nurseries. Some of the applied techniques related to nursery establishment were seed bed preparation, seed collection, seed pretreatment methods, use of concoctions (tree extracts/herbal) to control termites and manure application. These positive changes are a result of knowledge acquired during the training hence very good indicators of training impacts.

8.0 Problems on Forestry activities

There are various kinds of problems facing farmers in their endeavour to plant trees. Some of the problems are related to lack of knowledge or technical know how hence it is expected that after training such problems are solved to some extent if not wholly.

The analysis of different forestry problems encountered depicted the following.

8.1 Problems related to training

(i) Technical problems

The number of farmers encountering technical problems reduced from 50% at pre-survey to 28% at main survey. This implies that the training had offered technical knowhow to farmers hence helping them to solve some of such problems. Many technical problems such as seed collection, seed pre-treatment, seedbed preparation and soil mixing among others seem to have reduced highly after training.

The main technical problem raised by two farmers at the main survey was nursery management while one farmer indicated lack of termite control methods as a problem. Since nursery management techniques is one of the subjects offered it needs to be given more time so that farmers understand all the necessary operations.

(ii) Damages

This specifically refers to destruction of seedlings and trees by insects and animals. At the pre-survey time, the question of damages was not asked. However, 3 farmers indicated lack of termite control methods as a problem (under technical matters), that they were facing. At main survey time 78% of the farmers indicated damages by insects and animals was a serious problem. Even though most farmers had tried several techniques such as use of tree decoctions to control termites, it still remained a big problem. Researchers as well as trainers, need to look into this problem so as to come up with a concrete solution that is affordable and applicable by the farmer. Selection of less susceptible species is the most cost-effective approach to reduction of damage of trees planted in Arid and Semi-arid areas so far and train should emphasize on it.

iii) Water

At presurvey only 39% were facing water problem but at main survey, the number increased to 56%. The occurrence of drought at various times could have precipitated this problem. Some farmers indicated that they had applied the technique of micro-catchment construction around trees. However, water shortage has remained a serious drawback to tree planting activities and other community development undertakings in arid and semi-arid areas.

iv) Seeds

The main problems related to seeds were lack of seeds, difficulties in seed collection and lack of different suitable varieties or species preferred by the farmers. However, the training had positive impacts because after training only 33% were facing seed problem as compared to 56% before training. Techniques on seed collection and processing had been taught to the farmers hence helping them solve this problem. This is a good indicator of the positive impacts of training.

v) Materials

At pre-survey, 67% of the farmers raised lack of polythene tubes as the main item under material problem. However, this drastically reduced to 33%, indicating a very positive effect of training. During the Workshop discussions most of the farmers commended that since training, they had learnt to use cheaper locally available materials such as milk packets, plastic tins, hollow sisal poles cut into pieces and wrapped banana fibres as substitutes for the expensive and hardly available polythene tubes. The farmers had also been given a few polythene tubes after training which must have been quite helpful to them.

9.0. Techniques

9.1 Sources of technical knowledge

According to the pre-survey data, most farmers had learnt some techniques from other organizations/ministries before attending the training. Such techniques included seed collection, nursery activities and species selection. However 11%, 17% and 22% of the farmers did not learn any of these respective techniques from any organization before training as indicated by 'None' in the graphs 9.1.1, 9.1.2 and 9.1.3. For all the three techniques the Forest Department and Ministry of Agriculture had offered technical support to most farmers even before training.

Fig. 9.1.1 Seed collection-

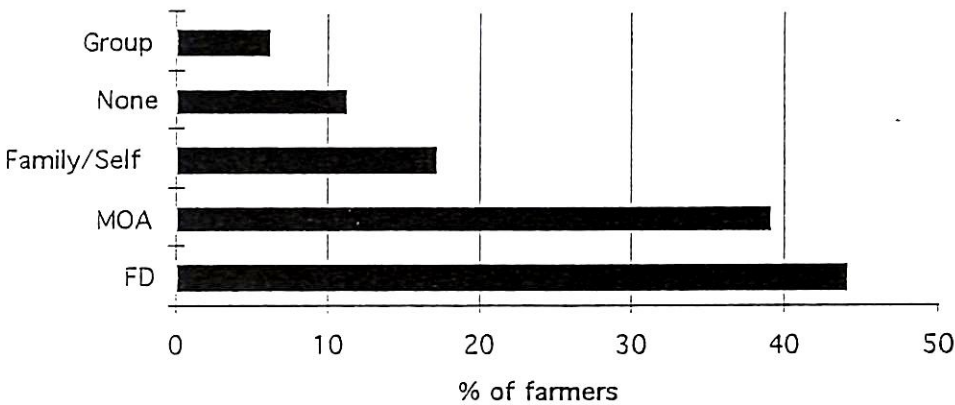
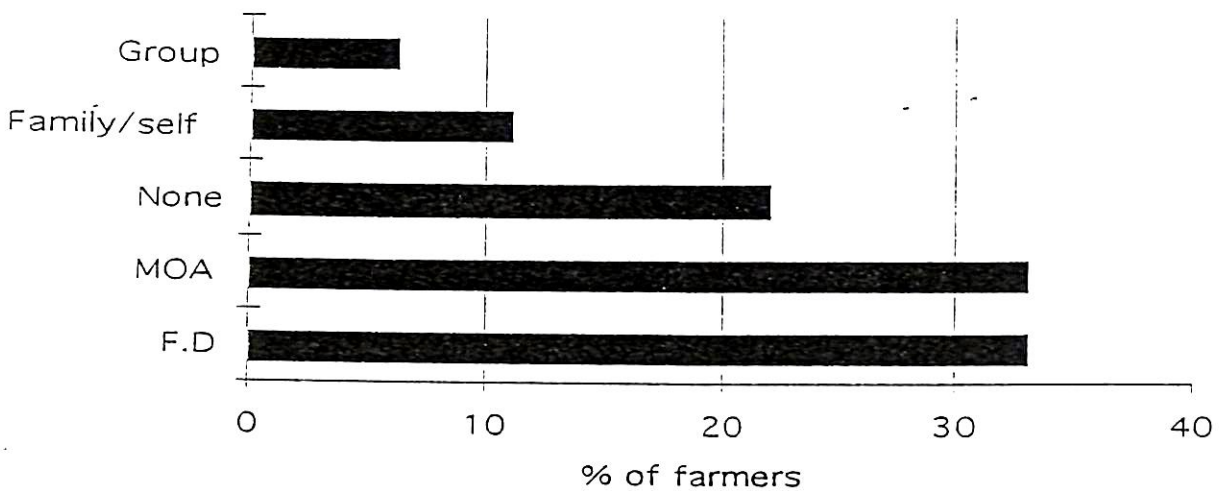


Fig. 9.1.2 Nursery activities



Fig. 9.1.3 Species selection



9.2 New Techniques:

Therefore the fact that some farmers got these techniques first after training shows the positive effect of training to these farmers. All the farmers except two had practically tried to use a new technique as appears in the main survey data. The exceptional cases could probably be due to these farmers having had learned enough from other courses offered by Forest department or other Ministries. Generally it is a clear fact that the training had direct positive impact on adoption of tree planting techniques by the farmers.

9.3 Techniques tried by farmers

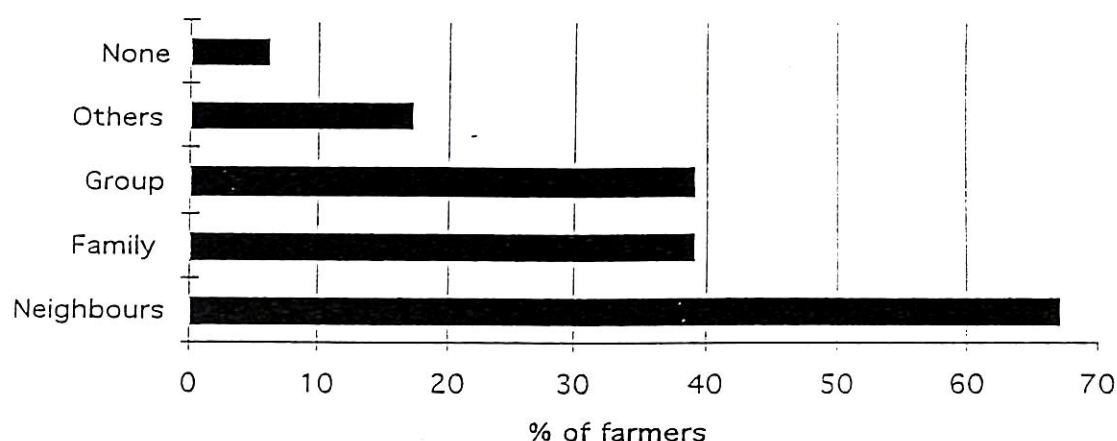
From the main survey data, it was observed that most of the farmers had tried tree planting techniques such as

- Nursery establishment and management
- Seedbed preparation
- Seed pre-treatment
- Micro-catchment construction for water harvesting around trees
- Seed collection
- Termite control methods
- Tree planting and management techniques which includes pitting
- Use of tins or milk packets for seedling establishment instead of polythene tubes
- Preparation of traditional medicines from herbal and medicinal trees and shrubs.

9.4 Dissemination of techniques learned

All farmers except one extended the techniques they learnt to either their families, neighbours, group members, others to a combination of all. 69% of the trained farmers extended the techniques to their neighbours, which indicates that the training had positive impacts on dissemination of tree planting techniques to others.

Fig. 9.1.4 Dissemination of techniques



10.0 Comments on New subjects

The new subjects introduced in phase 2 are Family Planning and Home economics.

10.1 Family Planning

61% of the farmers commented that this subject was very useful and for 17% of them it was just useful. 22% of farmers felt that the subject was not necessary to them-which could be due to their old age. Some of the farmers had mentioned that this subject would help them get the number of children they could take care of well.

10.2 Home economics

72% of the farmers indicated that the subject was very useful to them and 28% commented that it was useful. This implies that this subject was very beneficial to all the farmers hence should continue to be taught.. Some commented that they had started applying this subject when budgeting their income for their family expenses.

11.0 Farmers Future plans

Most of them commented that they had plans of increasing their tree growing activities. They expressed their desire to involve themselves in afforestation activities in their areas and reduce deforestation. Agroforestry was pointed out as one of the techniques they had planned to put into practice. The training offered and the workshop had highlighted them on the many benefits including income generation from tree planting and nursery establishment.

12.0 Suggestions for Training Course

During the workshop discussions, the farmers expressed that they had benefited from the training and with unity, the techniques they had learnt would help them plant more trees. They requested that they be taught how to dig ground wells in order to provide enough water for domestic consumption and tree planting activities.

They also suggested that more emphasis be put on agroforestry techniques when training farmers because it is very beneficial. They also requested that Follow-up surveys be made by visiting the farmers to see what they are doing and the difficulties arising in their endeavours to plant trees. They felt that the period of training be lengthened to ensure that every subject is covered satisfactorily.

In future, it would be good to put these suggestions into consideration if funds, time and other factors are available. Considering that for almost all farmers' courses held so far, the request for introduction of poultry keeping subject has been made repeatedly. I would also advice that this subject be included in the programme if possible.

13.0 CONCLUSION

13.1 Training Impacts

From the analysis of the results of this survey, the following facts have been identified:

- After training, all the farmers planted trees hence the training motivated them to plant more trees.
- Despite the difficult climatic conditions and damages by insects, and animals, each farmer planted trees almost every year after training unlike before training.
- All farmers except one started raising seedlings in their nurseries. Private nurseries increased from 9 to 12 and group nurseries increased from 5 to 7 after training. The number of seedlings raised in these nurseries also increased. 89% of the farmers also benefited from sale of seedlings after training hence getting more motivated.

13.2 Influence of Economic differences on Training Impacts:

The economic status in this survey was analysed in terms of housing materials, sizes of farmland and grazing land, and number of livestock. However, this didn't seem to have had effects on implemen

13.3 Influence of gender on Training Impacts

From this survey gender differences do not seem to have affected the farmers after the training. However, it was noted that most of the groups were composed of women. A very unique aspect of the groups planting trees for the surveyed farmers is that 4 groups out of the 7 having tree nurseries were composed of both male and female. This implies that both women and men have realised the importance of trees. Two female farmers and one male farmer indicated that they encountered lack of co-operation among group and family members in their endeavour to plant trees. It is also a common observation that most of the groups that plant trees under the social forestry training project are mainly composed of women. However, this data is not sufficient for any conclusion to be made as pertains to the relation between gender and training impacts.

13.4 General Comments and Recommendations

As per the results of this survey, it is necessary that much emphasis be put on proper species selection by the farmers from arid and semi-arid areas. Some of the species planted by the farmers are not suitable for arid areas. Such include *Eucalyptus species* which are susceptible to drought and termite attack.

Research on termite control and marketing of forest products is necessary so as to come up with a better solution for the farmers. This should be problem-oriented research and farmers' participation should be considered without assuming that the farmers know nothing.

As noted previously, this survey was done during a farmers' Workshop. Even though this method is considered economical and time saving it is not very reliable for evaluation of training impacts. Follow-up surveys will give a more realistic data as compared to the data collected during workshops. It will also help us to know the environment under which the farmer is operating and the problems being encountered. Some of the farmers' question can be answered better when in the field rather than in class. Questions on number of trees planted, the species and survival rates can be answered more precisely in the farmers compound. During this survey, the farmers expressed their desire to be visited by trainers and extension staff and it is felt that the exercise is worth for better training and extension impacts.

This kind of survey combined with socio-economic surveys in such areas can help any future development projects to know what to embark on in such areas. It should not be assumed by any project that the farmer will appreciate any package offered when their most basic problems are not put into consideration. Farmers participation is not only important at implementation stage but it is also quite vital at both planning and monitoring stage for effective and genuine development of Social Forestry projects.

Presurvey Form for Women's / Farmers' Course

Date : _____

Name : _____ Age : _____

Course Duration : from _____ to _____

Where is your home District : _____

Division : _____

Location : _____

Please enclose the answer (alphabet) that is true of you with a circle in following questions.

1. What kind of materials is your house made of ?
(a) Stone (b) Burnt brick (c) Unburnt brick (d) Mud & Wood
2. How many acres of land do you have ?
(1) Shamba : (a) 0 acre (b) 1-3 (c) 4-10 (d) 11-20 (e) 21 or more
(2) Grazing land : (a) 0 acre (b) 1-3 (c) 4-10 (d) 11-20 (e) 21 or more
3. How many head of animals do you have ?
(1) Cattle : (a) 0 head (b) 1-10 (c) 11-20 (d) 21 or more
(2) Goats : (a) 0 head (b) 1-10 (c) 11-20 (d) 21 or more
(3) Sheep : (a) 0 head (b) 1-10 (c) 11-20 (d) 21 or more
- 3.1. For what purpose do you keep them ?
(1) Cattle : _____
(2) Goats : _____
(3) Sheep : _____

4. Are you a member of Group ?

(a) Yes (b) No

(If replied "Yes")

4.1 Does your group carry out tree planting activities ?

(a) Yes (b) No

5. Have you ever planted trees except fruits ?

(a) Yes (b) No

(If replied "Yes")

5.1. When did you start planting trees for the first time ?

(a) 10 or more years ago (b) 5-9 years ago (c) 1-4 years ago

5.2. So far how many trees (except fruits) have you planted in your land?

(a) 1-49 trees (b) 50-99 (c) 100-499 (d) 500 or more

5.3.1 So far how many trees planted (except fruits) are surviving in your land ?

(a) 1-49 trees (b) 50-99 (c) 100-499 (d) 500 or more

5.3.2 What is the survival rate of trees (except fruits) planted so far in your land ?

(a) 0 % (b) Low level (1-30 %) (c) Medium level (31-69%)

(d) High level (70-100%)

5.4 How many seedlings (except fruits) did you plant within last one year in your land?

(a) 0 seedlings (b) 1-49 (c) 50-99 (d) 100-499 (e) 500 or more

5.5 Where have you mainly planted trees in your land ? (You may select one or more)

(a) around house or in the garden (b) boundary (c) shamba

(d) grazing land (e) specific area for plantation

6. For what purpose have you planted these trees ? (You may select one or more)
- (a) Ornamental (b) Shade (c) Firewood (d) Chacoal making (e) Fodder
 (f) Fertilizer (g) Pole/Timber for construction
 (h) Others : _____
- 6.1 Have you already utilized your trees (wood, foliage, etc.) for the following purposes?
- (a) firewood (b) pole/timber (c) charcoal making (d) fodder
 (e) fertilizer (f) not yet used (trees are too young)
- 6.2 Have you ever got income through sales of your trees (pole, timber, firewood, etc.)?
- (a) got constant income every year (b) got income a few times
 (c) expect income in the furture (d) private or family consumption only
7. Are you raising any seedlings in a nursery ?
- (a) Yes (b) No
- (If replied "Yes")
- 7.1 Whose nursery is it ?
- (a) Private / individual (b) Group
 (c) Others (specify) : _____
- 7.2 How many seedlings a year do you raise in such a nursery ?
- (1) Private / individual : _____
 (2) Group : _____
 (3) Others : _____

- 7.3 Have you or your group sold or given some of the seedlings produced in the nursery to someone e.g. other villages ?
- (a) only used by yourself or group members
(b) sold (got income) (c) given (free of charge)
8. From whom have you got the following techniques on nursery and tree planting so far except the training course at K.T.C. you are taking at present ?
- 8.1. Seed collection
- (a) your family or yourself (b) Group
(c) Forest Department (Officers, workers) (d) Other Ministries (Agriculture,etc)
(e) Any other source (f) I have not got them so far
- 8.2. Nursery works
- (a) your family or yourself (b) Group
(c) Forest Department (Officers, workers) (d) Other Ministries (Agriculture,etc)
(e) Any other source (f) I have not got them so far
- 8.3. Choice of the appropriate species.
- (a) your family or yourself (b) Group
(c) Forest Department (Officers, workers) (d) Other Ministries (Agriculture,etc)
(e) Any other source (f) I have not got them so far
- 8.4. Agroforestry techniques
- (a) your family or yourself (b) Group
(c) Forest Department (Officers, workers) (d) Other Ministries (Agriculture,etc)
(e) Any other source (f) I have not got them so far
- 8.5. Wood/products utilization (How to use the wood and other tree products)
- (a) your family or yourself (b) Group
(c) Forest Department (Officers, workers) (d) Other Ministries (Agriculture,etc)
(e) Any other source (f) I have not got them so far

9. Which kind of problems are you facing on forestry activities ?
- (a) Lack of materials, specify them _____
 - (b) Lack of tools, specify them _____
 - (c) Lack of water
 - (d) Difficult to collect seeds
 - (e) Damage by insects, animals or disease
 - (f) Technical matters, specify them _____
 - (g) We are too busy with other works.
 - (h) Lack of cooperation among the members.
 - (i) Others (specify) : _____

10. What are your future plans of promoting tree planting activities after this course ?
- _____

We wish you well as you now prepare to go back home !

(Pre-survey form in Kiswahili)

Fomu ya Kutangulia Ukaguzi wa mafunzo ya Akina mama/Wakulima

Tarehe : _____

Jina la mshiriki : _____ Umri : _____

Muuda wa mafunzo : kutoka _____ mpaka _____

Nyumbani kwako ni wapi ? Wilaya : _____

Tarafa : _____

Mtaa : _____

Tafadhali zungushia alama ya (✓), jawabu lako kwa maswali haya yafuatayo.

1. Nyumba yako imejengwa na nini ?

- (a) Mawe (b) Matofali ya kuchomwa
(c) Matofali yasiyo ya kuchomwa (d) Udongo na miti au mbao

2. Una ekari ngapi za shamba ?

- (1) Shamba : (a) ekari 0 (b) 1-3 (c) 4-10 (d) 11-20 (e) Zaidi ya 21
(2) Shamba la malisho : (a) ekari 0 (b) 1-3 (c) 4-10 (d) 11-20
(e) Zaidi ya 21

3. Una mifugo wangapi kwako?

- (1) Ng'ombe : (a) 0 (b) 1-10 (c) 11-20 (d) Zaidi ya 21
(2) Mbuzi : (a) 0 (b) 1-10 (c) 11-20 (d) Zaidi ya 21
(3) Kondoo : (a) 0 (b) 1-10 (c) 11-20 (d) Zaidi ya 21

3.1. Je, hizo mifugo ni za mathumuni gani ?

(1) Ng'ombe : _____

(2) Mbuzi : _____

(3) Kondoo : _____

4. Wewe ni mshirika katika kikundi chochote ?
 (a) Ndiyo (b) La
 (Kama jibu ni "ndiyo")
- 4.1 Hicho kikundi kinahusika na upandaji wa miti ?
 (a) Ndiyo (b) La
5. Umeshawahi kupanda miti yoyote isipokuwa ya matunda ?
 (a) Ndio (b) La
 (Kama jibu ni "ndiyo")
- 5.1. Ni lini ulipanda hizo miti mara ya kwanza ?
 (a) Miaka 10 au zaidi iliyopita (b) Miaka 5-9 iliyopita (c) Miaka 1-4 iliyopita
- 5.2. Kufikia wakati huu, ni miti mingapi (isiyokuwa ya matunda) umewahi kupanda?
 (a) 1-49 (b) 50-99 (c) 100-499 (d) Zaidi ya 500
- 5.3.1 Hadi waleo, ni miti mingapi (isiyokuwa ya matunda) inayoendelea kukua?
 (a) 1-49 (b) 50-99 (c) 100-499 (d) Zaidi ya 500
- 5.3.2 Hadi waleo unaonaje ile miti (isiyokuwa ya matunda) inayoendelea kukua?
 (a) 0% (b) Chini (1-30%) (c) Wastani (31-69%) (d) Juu (70-100%)
- 5.4 Ni miti mingapi uliyo panda (siyokuwa ya matunda) mwaka uliyopita?
 (a) 0 (b) 1-49 (c) 50-99 (d) 100-499 (e) Zaidi ya 500
- 5.5 Umepanda miti wapi katika shamba lako ? (Unaweza kuweka (✓), kwa jawabu moja au zaidi)
 (a) Kwa boma (b) Mipaka ya boma au shamba (c) shamba
 (d) Shamba la malisho
 (e) Pahali pengine (wapi ? _____)

4. Wewe ni mshirika katika kikundi chochote ?
 (a) Ndiyo (b) La
 (Kama jibu ni "ndiyo")
- 4.1 Hicho kikundi kinahusika na upandaji wa miti ?
 (a) Ndiyo (b) La
5. Umeshawahi kupanda miti yoyote isipokuwa ya matunda ?
 (a) Ndio (b) La
 (Kama jibu ni "ndiyo")
- 5.1. Ni lini ulipanda hizo miti mara ya kwanza ?
 (a) Miaka 10 au zaidi iliyopita (b) Miaka 5-9 iliyopita (c) Miaka 1-4 iliyopita
- 5.2. Kufikia wakati huu, ni miti mingapi (isiyokuwa ya matunda) umewahi kupanda?
 (a) 1-49 (b) 50-99 (c) 100-499 (d) Zaidi ya 500
- 5.3.1 Hadi waleo, ni miti mingapi (isiyokuwa ya matunda) inayoendelea kukua?
 (a) 1-49 (b) 50-99 (c) 100-499 (d) Zaidi ya 500
- 5.3.2 Hadi waleo unaonaje ile miti (isiyokuwa ya matunda) inayoendelea kukua?
 (a) 0% (b) Chini (1-30%) (c) Wastani (31-69%) (d) Juu (70-100%)
- 5.4 Ni miti mingapi uliyo panda (siyokuwa ya matunda) mwaka uliyopita?
 (a) 0 (b) 1-49 (c) 50-99 (d) 100-499 (e) Zaidi ya 500
- 5.5 Umepanda miti wapi katika shamba lako ? (Unaweza kuweka (✓), kwa jawabu moja au zaidi)
 (a) Kwa boma (b) Mipaka ya boma au shamba (c) shamba
 (d) Shamba la malisho
 (e) Pahali pengine (wapi ? _____)

6. Je, hiyo miti uliipanda kwa shauri au mathumuni gani ? (Unaweza kuweka alama (✓), zaidi ya moja)

(a) Pambo au urembo (b) Kivuli (c) Kuni

(d) Makaa (e) Chakula cha mifugo

(f) Mbolea (g) Mbao za kujenga

(h) Mathumuni mengine (Taja): _____

6.1 Umewahi kutumia miti zako kwa mathumuni haya ?

(a) Kuni (b) Mbao za kujenga (c) Makaa (d) Chakula cha mifugo

(e) Mbolea. (f) Sijaanza kuzitumia (Miche bado ni midogo)

6.2 Je, umewahi kupata pesa baada ya kuuza miti zako (mbao, kuni n.k)

(a) Huwa ninapata kila mwaka (b) Huwa nina pata mara chache

(c) Nina tarajia kupata baadaye (d) Ni matumizi yangu binafsi au ya jamii.

7. Je, unazalisha miche yeyote katika bustani la miche? ?

(a) Ndiyo (b) La

(Kama jibu ni "ndiyo")

7.1 Je, hilo bustani la miche ni la nani ?

(a) Lako binafsi (b) La kikundi (c) Kadhalika (Fafanua) : _____

7.2 Una miche mingapi katika bustani kama hilo ?

(1) Lako binafsi : _____

(2) La kikundi : _____

(3) Kadhalika : _____

7.3 Wewe au washiriki wa kikundi ume/ mme wahi kuuza au kupatia watu wengine kama majirani hizo miche ?

(a) Ni ya matumizi yangu au kikundi pekee

(b) Huuza (c) Hupatia wengine (bila malipo/bure)

8. Ni kutoka kwa nani umewahi kupata ujuzi au maarifa ya upandaji wa miti isipokuwa kutokana na haya mafunzo hapa chuoni ?

8.1. Kuhusu ukusanyaji wa mbegu

- (a) Kutoka kwa jamii yako au wewe mwenyewe
- (b) Kutoka kwa kikundi fulani
- (c) Kutoka kwa idara ya misitu (maofisaa au wafanyi kazi)
- (d) Kutoka kwa idara zingine (Kama idara ya kilimo na kadhalika).
- (e) Kutoka mahali pengine popote
- (f) Sijapata maarifa yoyote (kabla ya haya mafunzo)

8.2. Kuhusu kazi ya bustani

- (a) Kutoka kwa jamii yako au wewe mwenyewe
- (b) Kutoka kwa kikundi fulani
- (c) Kutoka kwa idara ya misitu (maofisaa au wafanyi kazi)
- (d) Kutoka kwa idara zingine (Kama idara ya kilimo na kadhalika)
- (e) Kutoka mahali pengine popote
- (f) Sijapata maarifa yoyote (kabla ya haya mafunzo)

8.3. Kuhusu uchagusi wa miti inayofaa.

- (a) Kutoka kwa jamii yako au wewe mwenyewe
- (b) Kutoka kwa kikundi fulani
- (c) Kutoka kwa idara ya misitu (maofisaa au wafanyi kazi)
- (d) Kutoka kwa idara zingine (Kama idara ya kilimo na kadhalika)
- (e) Kutoka mahali pengine popote
- (f) Sijapata maarifa yoyote (kabla ya haya mafunzo)

8.4. Kuhusu Kilimo mseto

- (a) Kutoka kwa jamii yako au wewe mwenyewe
- (b) Kutoka kwa kikundi fulani
- (c) Kutoka kwa idara ya misitu (maofisaa au wafanyi kazi)
- (d) Kutoka kwa idara zingine (Kama idara ya kilimo na kadhalika)
- (e) Kutoka mahali pengine popote
- (f) Sijapata maarifa yoyote (kabla ya haya mafunzo)

- 8.5. Matumizi ya bidhaa kutoka kwa miti (vile unaweza kutumia mbao na bidhaa zingine kutoka kwa miti)
- (a) Kutoka kwa jamii yako au wewe mwenyewe
 - (b) Kutoka kwa kikundi fulani
 - (c) Kutoka kwa idara ya misitu (maofisaa au wafanyi kazi)
 - (d) Kutoka kwa idara zingine (Kama idara ya kilimo na kadhalika)
 - (e) Kutoka mahali pengine popote
 - (f) Sijapata maarifa yoyote (kabla ya haya mafunzo)
9. Ni aina gani ya matatizo/shida unazopata katika shughuli za upandaji wa miti?
- (a) Ukosefu wa bidhaa fulani (Taja ni bidhaa gani) _____
 - (b) Ukosefu wa vyombo fulani (Fafanua/Taja ni gani) _____
 - (c) Ukosefu wa maji
 - (d) Ugumu wa kukusanya mbegu.
 - (e) Uharibifu wa miti kutokana na wadudu na magonjwa.
 - (f) Kutojua teknolojia/maarifa fulani (Taja) _____
 - (g) Kuwa na kazi nyingi.
 - (h) Kutokuwa na ushirikiano mwema kati ya washiriki wa kikundi.
 - (i) Shida zingine (Taja) : _____
 - _____
 - _____
10. Je, uko na shabaha/matarajio gani za kuendeleza upandaji wa miti baada ya haya mafunzo ?
- _____
- _____
- _____
- _____

Tunakutakia vyema unapojiandaa kurudi nyumbani !

Main Survey Form for Farmers/Womens Course

Date: _____

Interviewer: _____

Interviewee: _____

District: _____

Division: _____

Location: _____

Mailing Address: _____

Date of training at K.T.C.: _____

1. What kind of materials is your house made of ?

(a) Stone (b) Burnt bricks (c) Unburnt bricks (d) Mud & Wood

2. How many acres of land do you have ?

(1) Shamba (a) 0 acres (b) 1-3 (c) 4-10
(d) 11-20 (e) 21 or more

(2) Grazing land (a) 0 acres (b) 1-3 (c) 4-10
(d) 11-20 (e) 21 or more

2.1 Who owns the land ?

(a) Husband (b) Wife (c) Son (d) daughter

2.2 Who cultivates the land ?

(a) Husband (b) Wife (c) Children (d) others: _____

3. How many head of animals do you have ?

(1) Cattle (a) 0 head (b) 1-10 (c) 11-20 (d) 21 or more

(2) Goats (a) 0 head (b) 1-10 (c) 11-20 (d) 21 or more

- (3) Sheep (a) 0 head (b) 1-10 (c) 11-20 (d) 21 or more

3.1 For what purpose do you keep them ?

(1) Cattle: _____

(2) Goats: _____

(3) Sheep: _____

4. Are you a member of any Group ?

- (a) Yes (b) No

(If replied "Yes")

4.1. Is the group composed of purely men, women or mixture ?

- (a) Men (b) Women (c) Mixture

4.2 Does your group carry out tree planting activities ?

- (a) Yes (b) No

5. Have you ever planted trees except fruits ?

- (a) Yes (b) No.

(If replied "Yes")

5.1 When did you start planting trees for the first time ?

- (a) 10 or more years ago (b) 5-9 years ago (c) 1-4 years ago

5.2 So far how many trees (except fruits) have you planted in your land ?

- (a) 1-49 trees (b) 50-99 (c) 100-499 (d) 500 or more

5.3 So far how many trees planted (except fruits) are surviving in your land ?

- (a) 1-49 trees (b) 50-99 (c) 100-499 (d) 500 or more

5.4 So far what is the survival rate of trees planted (except fruit trees) ?

- (a) 0% (b) Low rate (1-30%) (c) Medium rate (31-69%)
(d) High rate (70-100%).

5.5 How many seedlings (except fruits) did you plant within last one year in your land ?

- (a) 0 seedlings (b) 1-9 trees (c) 50-99 (d) 100-499
(e) 500 or more

5.6 Which species have you planted at these places and how many trees are surviving ?

Place planted trees	Species	Number planted	surviving Number	Survival rate	Purpose of planting	Evaluation technique
Compound						
Boundary of compound						
Shamba						
Boundary of shamba						
Grazing land						
The other place (specify)						

C.S. Cassia siamea
 C.sp. Cassia spectabilis
 L.L. Leucaena leucocephala
 A.A. Acacia albida
 A.T. Acacia tortilis
 A.I. Azadirachta indica (Neem)

M.V. Melia volkensii
 G.R. Grevillea robusta
 E.S. Eucalyptus spp.
 F. Fruits trees
 O. The other species

6.1 Have you already utilised your trees (wood, foliage, etc.) for the following purposes ?

- | | | |
|--|-----------------|---------------------|
| (a) Firewood | (b) Pole/timber | (c) Charcoal making |
| (d) Fodder | (e) Fertiliser | (f) Others |
| (g) Not yet used (trees are too young) | | |

7. Have you ever got income through sales of your trees (poles, timber, firewood, etc.).

- | | |
|------------------------------------|---|
| (a) Got constant income every year | (b) Got income a few times |
| (c) Expect income in the future | (d) Private or family consumption only. |

7.1 Specify the form in which you sold the trees .

- (a) poles (b) timber (c) firewood (d) others: _____

7.2 Who benefits most out of the income received ?

- (a) Husband (b) Wife (c) Children (d) others: _____

8. Are you rising any seedlings in a nursery ?

- (a) Yes (b) No.

(If replied "Yes")

8.1 Whose nursery is it ?

- (a) Private/Individual (b) Group (c) Others: _____

8.2 How many seedlings a year do you raise in such a nursery ?

- | | | |
|------------------------|---|-------|
| (a) Private/Individual | : | _____ |
| (b) Group | : | _____ |
| (c) Others | : | _____ |

8.3 Have you or your group sold or given some of the seedlings produced in the nursery to someone e.g. other villages ?

- (a) Only used by yourself or group members (b) Sold (got income)
(c) Given (free of charge).

8.4 Have you had any changes of nursery activities after training courses at K.T.C. ?

9. Which kind of problems are you facing on forestry activities ?

- (a) Lack of materials, specify them _____
(b) Lack of tools, specify them _____
(c) Lack of water.
(d) Lack of land.
(e) Difficult to collect seeds.
(f) Damage by insects, animals or diseases.
(g) Technical matters, specify them _____
(h) We are too busy with other works
(i) Lack of co-operation among group members.
(j) Lack of co-operation among family members.
(k) Others (specify): _____

10. Have you tried the new techniques which you learnt in the training courses at K.T.C.?

- (a) Yes (b) No.

(If replied "Yes")

10.1 Which kind of techniques have you tried ?

11. Have you taught any persons techniques that you learnt in the training courses at K.T.C. ?

(a) Yes (b) No.

(If replied "Yes")

11.1 To whom have you taught the techniques ?

(a) Family (b) Neighbours (c) Group members

(d) Other persons: _____

12. Are the following subjects useful for you ?

Subject	Usefulness	Practice
Family planning	(a) Very usefui	
	(b) Useful	
	(c) Needless	
Home Economic	(a) Very useful	
	(b) Useful	
	(c) Needless	

13. Is there any useful idea you think could be included in the training course ?

13.1 What are your expectations for enhancing tree planting activities in the future ?

14. Evaluation by interviewer

14.1 Area for tree planting.

- (a) Not difficult, if farmers have knowledge and techniques which they can learn in the training course at K.T.C.
- (b) Difficult because of severe environment , it needs advanced techniques beyond training.

14.2 Conscious of the trainee for tree planting

- (a) High motivation and success in tree planting.
- (b) High motivation, but tree planting activities are not carried out continuously. (for example, exercises before and under preparation or nothing presently).

(reasons) _____

- (c) High motivation, but fail to plant trees (many seedlings died)

(reasons) _____

- (d) Trainee wants to try tree planting, but never planted.

(reasons) _____

(e) Low motivation

(reasons) _____

14.3 Items which the interviewer suggested to improve techniques of trainee.

14.4 Points that were obtained to improve the trainee course in this interview.

Fomu ya Ukaguzi Mkuu wa Mafunzo ya Akina mama/wakulima.

Tarehe: _____

Mhoji: _____

Mhojiwa: _____

Wilaya: _____

Tarafa: _____

Mtaa: _____

Anwani: _____

Tarehe ya mafunzo (KTC): _____

1. Nyumba yako imejengwa na vifaa gani ?

- (a) Mawe (b) Matofali ya kuchomwa
- (c) Matofali yasiyo ya kuchomwa (matofali baridi)
- (d) Udongo na miti au mbao

2. Una ekari ngapi za shamba ?

- (1) Shamba:
- (a) ekari 0 (b) 1-3 (c) 4-10
 - (d) 11-20 (e) Zaidi ya 21

- (2) Shamba la malisho:
- (a) ekari 0 (b) 1-3 (c) 4-10
 - (d) 11-20 (e) Zaidi ya 21

2.1 Ni nani anajulikana kama mwenye hiyo shamba ?

- (a) Mume (b) Mke (c) Binti (d) Wana wa kiume.

2.2 Ni nani anayelima hiyo shamba ?

- (a) Mume (b) Mke (c) Watoto (d) Wengine.....

3. Una mifugo wangapi ?

- | | | | | | |
|-----|----------|-------|----------|-----------|-----------------|
| (1) | Ng'ombe: | (a) 0 | (b) 1-10 | (c) 11-20 | (d) Zaidi ya 21 |
| (2) | Mbuzi: | (a) 0 | (b) 1-10 | (c) 11-20 | (d) Zaidi ya 21 |
| (3) | Kondoo: | (a) 0 | (b) 1-10 | (c) 11-20 | (d) Zaidi ya 21 |

3.1 Madhumuni yako yakuweka hawa mifungo ni nini ?

- (1) Ng'ombe: _____
- (2) Mbuzi: _____
- (3) Kondoo: _____

4. Wewe ni mwanachama wa kikundi ?

- (a) Ndiyo (b) La

(Ikiwa jibu ni "ndiyo")

4.1 Ni akina nani waliyo wahusika wengi katika hicho kikundi ?

- (a) Wanawake (b) Wanaume (c) Wanaume na wanawake

4.2 Kikundi chenu kinafanya kazi ya upandaji wa miti ?

- (a) Ndio (b) La

5. Mbali na miti ya matunda, umewahi kupanda miti yoyote ?

- (a) Ndio (b) La.

(Ikiwa jibu ni "ndiyo")

5.1 Ulianza kupanda miti lini kwa mara ya kwanza ?

- (a) Miaka 10 au zaidi iliyopita (b) Miaka 5-9 iliyopita (c) Miaka 1-4 iliyopita

5.2 Mpaka sasa umepanda miti mingapi (mbali na ya matunda) ?

- (a) 1-49 (b) 50-99 (c) 100-499 (d) Zaidi ya 500

- 5.3 Mpaka sasa ni miti mingapi kati ya ile uliyopanda shambani lako (mbali na matunda) imebaki na inaendelea kukua ?
- (a) 1-49 (b) 50-99 (c) 100-499 (d) Zaidi ya 500
- 5.4 Mpaka sasa ni kiasi ya silimia ngapi ya miti uliopanda (mbali na ya matunda) inaendelea kukua ?
- (a) 0% (b) Asilimia ndogo (1-30%)
 (c) Asilimia kiasi (31-69%) (d) Asilimia kubwa (70-100%)
- 5.5 Ni miche ngapi (mbali na ya matunda) ulipanda shambani lako kati ya mwaka mmoja uliyopita ?
- (a) 0 (b) 1-49 (c) 50-99 (d) 100-499 (e) - Zaidi ya 500

5.6 Ni miti ngapi iliyobaki na inaendelea kukua katika sehemu hizi. Ukaguzi wa maarifa ya mhoji maswali.

Pahali miti imepandikizwa	Aina ya miti	Nambari iliyopandwa	Nambari ya miti inavokua	Asilimia ya miti inavokua	Madhumuni	Utumizi wa ujuzi kupanda miti
Ua-inje ya boma						
Mpaka wa boma						
Shambani						
Mpaka wa shambani						
Sehemu ya malisho						
Sehemu zingine taja.						

C.S. Cassia siamea
 C.sp. Cassia spectabilis
 L.L. Leucaena leucocephala
 A.A. Acacia albida
 A.T. Acacia tortilis
 A.I. Azadirachta indica (Neem)

M.V. Mellia volkensii
 G.R. Grevillea robusta
 E.S. Eucalyptus spp.
 F. Fruits trees
 O. The other species

6.1 Umeisha anza kutumia miti yako (kuni, chakula cha mifugo na kadhalika) kwa madhumuni yafuatayo ?

- (a) Kuni (b) Fito/Mbao (c) Utengenezaji makaa
(d) chakula cha mifugo (e) Mbolea (f) Inge
(g) Bado hujatumia (kwa sababu ya uchanga wa miti)

7 Umeshawahi kuwa na mapato ya kifedha kutokana na mauzo ya miti yako (fito,bao,kuni na kadhalika) ?

- (a) Ninapata mapato yasiyopungua kila mwaka.
(b) Nina pata mapato mara chache
(c) Miti hii ni kwa faida yangu binafsi au kwa matumizi ya jamii pekee.
(d) Matumizi yako au ya familia pekee.

7.1 Eleza ni kutoka hali gani uliua hiyo miti ?

- (a) Fito (b) Bao (c) kuni (d) Inge.....

7.2 Ni nani anayefaidika kutokana na fedha kama hizo ?

- (a) Mume (b) Mke (c) Watoto (d) Wenge.....

8. Unakuza miche yoyote kwa bustani ya miche ?

- (a) Ndiyo (b) La

(Ikiwa jibu ni “ndiyo”)

8.1 Hiyo bustani ni ya nani ?

- (a) Binafsi (b) Kikundi (c) Inge:.....

8.2 Unakuza jumla ya miche mingapi katika bustani hiyo ?

(a) Yako binafsi : _____

(b) Kikundi : _____

(c) Inge : _____

8.3 Umeshaa uza au kupeana miti yeyote kwa mfano kijiji (wewe au kikundi chenu) kiasi chochote cha ile miche mnayo kuza kwa bustani ?

- (a) Inatumiwa na wewe au wanachama kikundi pekee.
- (b) Inauzwa (kwa kuleta mapato)
- (c) Inapeanwa bila malipo

8.4 Umepata mabadiliko ya ukusaji na ustawishaji wa miche katika bustani yako ya miche tangu utoke kwa mafunzo huko K.T.C.

9. Unakabiliwa na shida gani katika shughuli za ukuzaji wa miti kwa jumla ?

- (a) Ukosefu wa vifaa, vitaje _____
- (b) Ukosefu wa vyombo, vitaje _____
- (c) Ukosefu wa maji
- (d) Ukosefu wa ardhi
- (e) Ugumu wa ukusanyaji wa mbegu.
- (f) Uharibifu kutokana na wadudu, wanyama au magonjwa.
- (g) Shida za kitekinologia au ujuzi, taja _____
- (h) Ukosefu wa nafasi kwa sababu ya kazi nyingine nyingi.
- (i) Ukosefu wa ushirikiano kati ya wanachama.
- (j) Ukosefu wa ushirikiano kati ya jamii yako.
- (k) Shida nyingine (taja): _____

10. Umejaribu kutumia ujuzi mpya uliyojifunza kutokana na mafunzo uliyopewa kule K.T.C ?

(a) Ndiyo (b) La

(Ikiwa jibu ni "ndiyo")

10.1 Ni ujuzi gani uliyo jaribu ?

11. Umejaribu kumfunza mna yeyote ujuzi ule ulijifunza kwa mafunzo kule K.T.C.

(a) Ndiyo (b) La

(Ikiwa jibu ni "ndiyo")

11.1 Ujuzi huo umefunza nani ?

(a) Jamii yako (b) Majirani
(c) Wanachama wa kikundi/vikundi
(d) Wengine:.....

12. Mafunzo yanayofuata yana umuhimu wowotekwako ?

Somo	Umuhimu	Matumizi
Upangaji wa uzazi	(a) Muhimu sana (b) Muhimu (c) Sio muhimu	
Hali ya uchumi ayumbani	(a) Muhimu sana (b) Muhimu (c) Sio muhimu	

13. Uko na maoni au maarifa yoyote tunaweza kuongeza kwa mafunzo yetu ?

13.1 Kwa siku sijazo, una matarajio gani kuhusu uendelezaji wa upandaji wa miti ?

Appendix 2 Raw data of the Pre-survey and the Main-survey

		PRE-SURVEY DATA (Kitui & Mwingi Districts)														
No.	Course date	Sex		House materials				Farming land (Ha)				No. of livestock held				Sheep
		F	M	S	BB	UB	M/W	0	1-3	4-10	11-20	Over 21	0	1-10	11-20	Over 21
1	10/21/5/92		1				1									
2	10/21/5/93		1				1									
3	2/1/5/2/93															
4	12/23/7/94															
5	12/23/7/93															
6	5/10/5/93															
7	11/22/5/92															
8	9/10/5/94															
9	9/10/5/94															
10	11/22/7/94															
11	11/22/7/94															
12	10/21/6/91															
13	10/21/6/91															
14	10/21/6/91															
15	2/5/2/6/3/91															
16	1/19/7/93															
17	11/22/5/92															
18	10/21/5/91															
Total		14	56	0	50	20	17	11	22	44	20	11	22	10	11	17

H/o	Gp Membership		I Planting except fruit trees		When tree planting began			Trees planted upto date			Surviving trees upto date			Seedlings Planted last yr				Raising seedlings in a nursery		Type of nursery/No. of seedlings raised					
	Yes	No	Yes	No	10yrs/more	5-9yrs	1-4yrs ago	1-49	50-99	100-499	Over 500	1-49	50-99	100-499	Over 500	0	1-49	50-99	100-499	Over 500	Yes	No	Private	Group	Others
1	1		1				1	1				1					1				1			1500(1)	
2	1		1			1				1			1						1		1			200(1)	
3	1		1				1				1									1	1		500(1)	200(1)	
4	1		1		1				1				1						1		1		30(1)		
5	1		1			1			1			1									1		100(1)		
6	1		1		1				1			1									1		150(1)		
7	1		1						1			1									1		9000(1)		
8	1		1				1	1		1		1									1		9500(1)		
9	1		1				1		1			1									1		0		0
10	1		1			1			1			1									1		100(1)		0
11	1		1			1			1			1									1		0		0
12	1		1				1		1				1						1		1		200(1)		
13	1				0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	1		0	0	0
14	1		1				1				1				1					1	1		300(1)		
15	1		1		1				1			0	0	1	0	0	0	0	0	0	1		0	0	0
16	1		1				1	1	1			1								1	1		50(1)		
17	1		1			1				1			1						1		1		0		0
18	1		1				1			1			1							1	1		300(1)		
Total	17	1	17		3	5	9	6	4	5	2	6	8	2	1	5	8	2	2	1	13	5	10580(9)	11550(5)	0
%	94	6	94		17	28	50	33	22	28	11	33	44	11	6	28	44	11	11	6	72	28			

HB: Figures in brackets indicate the number of farmers having Private or Group Nurseries.

No.	The purpose for planting trees							Problems encountered in forestry activities							Technical matters			Others			Seeds		
	Ornamental	Shade	Firewood	Charcoal	Fodder	Fertilizer	Pole/timber	Others	Tools			Water	Seeds	Technical matters	Time	Disunity	Others	Technical matters	Others	Seeds	Different tree species a	Lack of seeds b	
									Materials	Tools	Tools												
1			1						1	1 (a),(b),(c),(d)		1 g	1 a				1 a	Limbo (a)	seed collection a	Money d			
2		1	1	1	1		1		1	1 (a),(b),(d)			1				1 a	Panga(b)	Termite control b				
3	1	1	1					1	1	1(d)		1 g		1				Rake(c)	Seed pretreatment method c				
4	1	1							1	1(a)	1	1 a	1 b					Wheelbarrow(d)	Shading methods d				
5	1	1	1				1			1 (a),(b),(e)								Spade (e)	Seed bed preparation e				
6		1							1(a)				1					Watering cans (f)	root pruning f				
7		1	1		1	1	1		1(a)	1(a),(d),(e),(f),(g)			1 e, d					Root pruning tools (g) soil mixing g					
8	1	1							1(a)	1 (a),(c),(f)		1 b, g						Materials					
9		1	1			1				1(d)		1 e	1 b					Polythene tubes (a)					
10	1										1	1 b	1 e, f, g										
11		1	1		1				1(a)	1(a),(d)		1											
12								1			1												
13									1	1(a),(e),(d)		1 g											
14							1		1														
15	1												1 b, h										
16	1	1							1(a)		1	1 g											
17	1	1	1						1 (a)	1 (c),(f)	1	1 b, g	1 (e)	1									
18							1			1(a),(b),(d)													
Total	8	11	8	1	3	2	5	2	12	12	7	10	9	2	0	2							
%	44	61	44	6	17	11	28	11	67	67	39	56	50	11	0	11							

No.	The purpose for planting trees						Others	Problems encountered in forestry activities						Disunity	Others
	Ornamental	Shade	Firewood	Charcoal	Fodder	Fertilizer		Pole/Lumber	Materials	Tools	Water	Seeds	Technical matters		
1			1					1	1 (a),(b),(c),(d)		1 g	1 a			1 a
2		1	1	1	1		1	1	1 (a),(b),(d)			1			1 a
3	1	1	1					1	1 (d)		1 g		1		
4	1	1						1	1 (a)	1	1 a	1 b			
5	1	1	1				1		1 (a),(b),(c)						
6		1						1 (a)				1			
7		1	1		1	1	1	1 (a)	1 (a),(d),(c),(f),(g)			1 c, d			
8	1	1						1 (a)	1 (a),(c),(f)		1 b, g				
9		1	1			1			1 (d)		1 g	1 b			
10	1									1	1 b	1 e, f, g			
11		1	1		1		1	1 (a)	1 (a),(d)	1	1 b				
12										1					
13								1	1 (a),(c),(d)	1	1 g				
14								1							
15	1											1 b, h			
16	1	1						1 (a)		1	1 g				
17	1	1	1					1 (a)	1 (c),(f)	1	1 b, g	1 (e)	1		
18							1		1 (a),(b),(d)						
Total	8	11	8	1	3	2	5	12	12	7	10	9	2	0	2
	44	61	44	6	17	11	28	67	67	39	56	50	11	0	11

Technical matters
seed collection a
Termite control b
Seed pretreatment method c
Shading methods d
Seed bed preparation e
root pruning f
Root pruning tools (g) soil mixing g

Tools
Jembe (a)
Panga(b)
Rake(c)
Wheelbarrow(d)
Spade (e)
Watering cans (f)
Root pruning tools (g) soil mixing g

Others
Money d
Lack of seeds h

Seeds
Different tree species a
Lack of seeds h

Materials
Polythene tubes (a)

MAIN SURVEY DATA (Kitui & Mwingi Districts)

No	Course date	Sex	House materials				Grading land (ha)					Farming (ha)					Landowner			Who cultivates the land			Cattle				No. of livestock kept																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
			S	B.B.	U.B.	M/W	0	1	3	4	10	11	20	Over 21	0	1	3	4	10	11	20	Over 21	hus	wife	Daughter	Son	hus	wife	Children	Others	0	1	10	11	20	over 21	0	1	10	11	20	over 21																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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No.	TREES PLANTED IN THE COMPOUND												TREES PLANTED ON THE COMPOUND BOUNDARY											
	C.S	C.SP	L.L	A.I	GR.	E.S.	F.I	AC.	T.M.	AcSp	E.T.	J.M	C.C	A.O	I.P.	C.S.	GR.	E.S.	AC.	E.T.	C.A	Sisal	AcSp	
1	1			1															1					
2							1											1	1					
3								1	1										1					
4	1			1																1				
5								1											1					
6							1			1										1				
7	1																1	1						
8								1			1										1			
9										1												1		
10	1	1																		1				
11	1		1	1			1								1									
12	1			1			1		1			1					1							
13					1														1					
14					1												1							
15					1	1	1					1					1		1					
16				1																1			1	
17		1		1																1		1	1	
18											1			1						1	1	1	1	
Total	6	2	1	6	3	1	6	2	2	3	1	1	1	1	1	1	4	2	6	6	2	2	2	
%	33	11	6	33	17	6	33	11	11	17	6	6	6	6	6	6	22	11	33	33	11	11	11	

No.	TREES PLANTED IN THE COMPOUND													TREES PLANTED ON THE COMPOUND BOUNDARY									
	C.S	CSP	L.L	A.I.	GR.	ES.	F.I.	A.C.	T.M.	AcSp	E.T.	J.H	C.C	A.O	T.P.	C.S.	GR.	ES.	A.C.	E.T.	C.A	Sisal	Ac Sp
1	1			1														1					
2							1											1					
3								1	1										1				
4	1		1																	1			
5								1											1				
6							1			1										1			
7	1																1	1					
8							1				1										1		
9										1													1
10	1	1																		1			
11	1		1	1			1								1								
12	1			1			1		1			1					1						
13					1														1				
14					1												1						
15					1	1	1						1				1		1				
16				1																1			1
17		1		1																1			1
18														1						1		1	1
Total	6	2	1	6	3	1	6	2	2	3	1	1	1	1	1	1	4	2	6	6	2	2	2
%	33	11	6	33	17	6	33	11	11	17	6	6	6	6	6	6	22	11	33	33	11	11	11

No	TREES PLANTED IN THE FARM										TREES PLANTED ON THE FARM BOUNDARY					TREES PLANTED IN THE GRAZING LAND					OTHERS															
	C.S.	C.SP	L.L.	A.I.	GR.	ES.	AcSp	F.T.	J.M.	C.C.	S.S.	M.O.	T.M.	GR.	AcSp	A.C.	Sisal	ES.	E.T.	C.S.	T.M.	C.A.	L.L.	C.S.	GR.	AcSp	N.G.	G.S.	ES.	GR	F.T.	C.C.	C.S.	L.L.	A.Q.	
1	1		1					1																												
2											1																									
3	1																																			
4	1																																			
5	1																																			
6																																				
7																																				
8	1																																			
9																																				
10	1																																			
11																																				
12	1																																			
13																																				
14																																				
15	1																																			
16																																				
17																																				
18																																				
Total	8	1	7	3	3	2	3	7	1	1	1	1	1	2	3	4	5	1	2	2	2	1	7	1	1	4	1	1	1	1	4	1	1	1	2	1
%	44	6	39	17	17	11	17	39	6	6	6	6	6	11	17	22	28	6	11	11	11	6	39	6	6	22	6	6	6	6	22	6	6	6	11	6

Summary of the General Situation of the Country											
No.	Item	Unit	Value	Value	Value	Value	Value	Value	Value	Value	Value
1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
3	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
4	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
5	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
6	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
7	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
8	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
9	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
10	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
11	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
12	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1	12.1
13	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
14	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1	14.1
15	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1
16	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
17	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1
18	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1	18.1

No.	Surviving trees/Survival (%) / Purpose of planting									
Trees planted on the compound boundary										
	C.S	G.R	E.S	A.C	E.T	C.A	Sisal	Ac Sp		
1				100(67)						
2			90(90) Boundary marking	35(87)						
3				2400(96) Protection						
4					200(100)					
5				1800(100) Protection						
6					100(100)					
7			50(100) Firewood, windbreak,							
8			70(100) Timber, Windbreak			24(68) fence				
9							5600(93) building, rope-making			
10					100(67)					
11	40(80)									
12	40(89) boundary marking									
13				2400(80) boundary marking						
14		130(87)								
15			50(100) boundary marking	45(90) boundary marking						
16					100(67)					
17					100(67)				5(50)	
18					30(75)	20(67)	42(84)		40(90) manure	

No.	Surviving trees/survival %/purpose of planting												
	Trees planted on the farm												
	C.S	C.Sp	L.L	A.I	G.R	E.S	Ac.Sp	F.T	J.in	C.C	S.S	M.O	T.M
1	6(100)		15(75)					45(90)					
2					70(87)						35(70) fodder		
3	35(87)organic matter		29(97)fodder	38(95)organic matter		39(97)		49(98)fruits					
4	12(80)				28(80)		14(70)						
5	20(100)firewood			7(100)medicine			40(80)						
6			55(92)					50(100)					
7			30(75)manure					7(70)fruits					
8	40(89)		5(50)					28(70)Fruits					
9								20(50)					
10	30(75)	30(100)											
11			25(83)						14(70)				
12	30(79)			30(71)Sale									25(62)
13			160(91)			25(83)						6(60)	
14		0	0	0	0	0	0	0	0	0	0	0	0
15	30(100)firewood				40(100)organic matter					20(100)fodder			
16								7(58)fruits					
17					9(90)		12(80)						
18								13(100)					

No.	Surviving trees/Srivaith/Purpose of planting									
	Trees planted in the Farm boundary									
	C.S	GR	Ac:Sp	A.C	Sisal	E.S	C.A	T.M	E.T	
1		0		0		0				
2		55(92) Boundary/mark	40(57) boundary mark							
3		100(100) fencing		1800(90) protection						
4					200(100)					
5					6000(150) protection					
6					100(100)					
7			60(100) windbreak			40(80) windbreak				
8				19(95)						
9					14000(100) protection, fibres					
10										
11										
12	58(92)							47(94)	200(100)	
13			8(100) boundary mark							
14				90(90)						
15				30(100) boundary mark						
16					50(50) boundary mark, fibre					
17							95(95)			
18			30(75) boundary mark						90(69) boundary mark	

Surviving trees/survival %/ purpose of planting						
Trees planted in grazing land						
No.	L.L	C.S.	G.R	Ac.Sp	N.G	G.S
1						
2	30(86)fodder					
3	32(80)	10(67)	45(90)			
4						
5				100(100)fodder,firewood,pegs		
6				9(90)		
7	16(100) fodder,poles			14(93)fodder,firewood		
8						
9	29(76)fodder					
10						
11						
12					300(100)	
13	90(90) fodder					
14						
15	20(100) fodder			10(100) fodder		
16						
17						
18	35(88)fodder					90(75)fodder

No.	surviving trees/Survival %/Purpose of planting						
	Trees planted in other areas						
	E.S	G.R.	F.T.	C.C.	C.S	L.L	A.Q
1	40(100)						
2		890(89)fodder					
3		15(75)					
4							
5							
6							
7		78(98) soil conservation				60(86) soil conservation	
8							
9							
10							
11							
12							
13			110(44)fruits				
14							
15		50(100)manure		25(63)fodder	32(53)	40(80)fodder	
16							
17							
18							90(50)manure

MAIN SURVEY DATA

Hh	Utilization of trees						Income generation from tree sales				Forms of sales				Beneficiary				
	Firewood	Pole/timber	Charcoal	Fodder	Fertilizer	Others	Not yet	Constant p	Often	Expected	Domestic Consump	Poles	Timber	Firewood	Others	Hus	Wife	Children	Others
1		1						1				1				1	1		
2	1		1					1				1		1		1	1		
3	1								1			1				1			
4	1			1					1					1			1		
5	1							1						1		1	1		
6							1			1									
7	1	1		1				1						1	1	1	1		1
8	1										1								
9						1					1								
10	1										1								
11	1	1		1					1			1	1			1	1		
12							1				1								
13	1	1	1	1	1						1								
14							1			1									
15	1	1	1	1	1			1		1		1	1	1		1	1	1	1
16							1				1								
17	1			1							1								
18	1				1			1						1		1	1	1	
Total	12	5	3	6	4	1	4	6	3	2	7	5	2	6	1	8	8	7	1
%	67	26	17	33	22	6	22	33	17	11	39	26	11	33	6	44	44	39	6

* Fruits

MAIN SURVEY DATA

No.	Utilization of trees						Income generation from tree sales					Forms of sales				Beneficiary			
	Firewood	Pole/timber	Charcoal	Fodder	Fertilizer	Others	Not yet	Constant price	Often	Expected	Domestic Consumption	Poles	Timber	Firewood	Others	Hus	Wife	Children	Others
1		1						1				1				1	1		
2	1		1					1					1			1	1		
3	1				1				1			1				1			
4	1			1					1					1					
5	1							1						1		1	1		
6							1			1									
7	1	1		1				1						1		1	1		1
8	1										1								
9						1					1								
10	1										1								
11	1	1		1					1			1	1			1	1		1
12							1												
13	1	1	1	1	1						1								
14							1												
15	1	1	1	1	1			1				1	1	1		1	1	1	
16							1				1								
17	1			1							1								
18	1				1				1						1	1	1	1	
Total	12	5	3	6	4	1	4	6	3	2	7	5	2	6	1	8	8	7	1
%	67	28	17	33	22	6	22	33	17	11	39	26	11	33	6	44	44	39	6
																			* Fruits

* Fruits

No	few techniques used after training		Whom you taught					Problems encountered on forestry activities										
	Yes	No	Family	Neighbors	Group	Others	None	Materials	Tools	water	Land	Seeds	Damages	Technical matters	Time	Group disunity	family disunity	Others
1	1			1	1				1(a),(d),(f)									
2	1		1	1		1			1(a),(f)		1		1			1		
3	1		1	1					1(f),(g)				1					1
4	1				1				1(a),(f)		1		1					
5	1				1								1		1			
6	1		1	1				1(a)			1	1 g	1					
7	1			1					1(f),(g)				1					1 b
8	1				1			1(a)	1(a),(b),(d),(f),(g),(h),(i),(k)				1 h			1		
9	1				1			1(a)	1(f)		1		1					
10		1	1	1		1			1(a),(f),(h)		1		1				1	1 a
11	1						1	1(a)	1(a),(b)					1 h				1
12	1			1				1(a)	1(a),(b),(f)			1 g	1		1			1 a
13	1		1	1	1			1(a)	1(a),(b),(e),(f),(i)		1	1 g	1	1 b				
14		1			1						1							
15	1		1	1	1	1			1(a),(b),(d),(f)		1	1 g	1					
16	1				1						1		1					
17	1					1				1		1 g						
18	1		1	1				1(a)	1(a),(f)		1	1 b, g	1					1 c
Total	16	2	7	12	7	3	1	6		14	10	6	14		5	1	3	4
%	89	11	39	67	39	17	6	33		78	56	33	78		28	6	17	22

- Tools**
 Jenbe (a)
 Panga (b)
 Rake (c)
 Wheelbarrow(d)
 Spade(e)
 Watering can (f)
 Root pruning tools (g)
 Drum (h)
 Watering pump and sprinklers (i)
 Shovel (j)
 Soil sieve (k)
- Materials**
 Polythene tubes (a)
 Different tree species seeds a
 Lack of seeds b
 Difficulties in seed collection g
- Seeds**
 Different tree species seeds a
 Lack of seeds b
 Difficulties in seed collection g
- Technical matters**
 Seed collection a
 Termite control b
 Seed pretreatment method c
 Shading methods d
 Seedbed preparation e
 Root pruning f
 Soil mixing g
 Nursery management h
- Others**
 Money a
 Lack of chemicals b
 Difficulties in educating public on tree planting c

No	New subject							
	Family planning				Home Economics			
	Very	Useful	Needless		Very	Useful	Needless	
1	1				1			
2			1		1			
3	1				1			
4	1				1			
5	1				1			
6		1				1		
7		1				1		
8	1				1			
9	1				1			
10	1				1			
11		1				1		
12	1				1			
13			1		1			
14	1					1		
15			1		1			
16	1				1			
17	1				1			
18			1			1		
Total	11	13	4		23	5		
%	61	17	22		72	28		

NAMES OF SPECIES

Species initials	NAMES
C.S.	Cassia siamea
C.Sp.	Cassia spectabilis
L.L.	Leucaena leucocephala
Ac.Sp	Acacia species
A.I.	Azadirachta indica
M.V.	Mellia volkensii
G.R.	Grevillea robusta
E.S.	Eucalyptus species
F.T.	Fruit trees
A.C.	Aberia caffra
C.E.	Casuarina equisetifolia
S.S.	Sesbania sesban
T.I.	Tamarindus indica
E.T.	Euphorbia tirucalli
M.O	Moringa oleifera
C.C.	Calliandra calothyrsus
G.S.	Gliricidia sepium
A.Q	Azalia quanzensis
A.O.	Anacardium occidentale
T.P.	Terminalia prunoides
C.A.	Commiphora africana