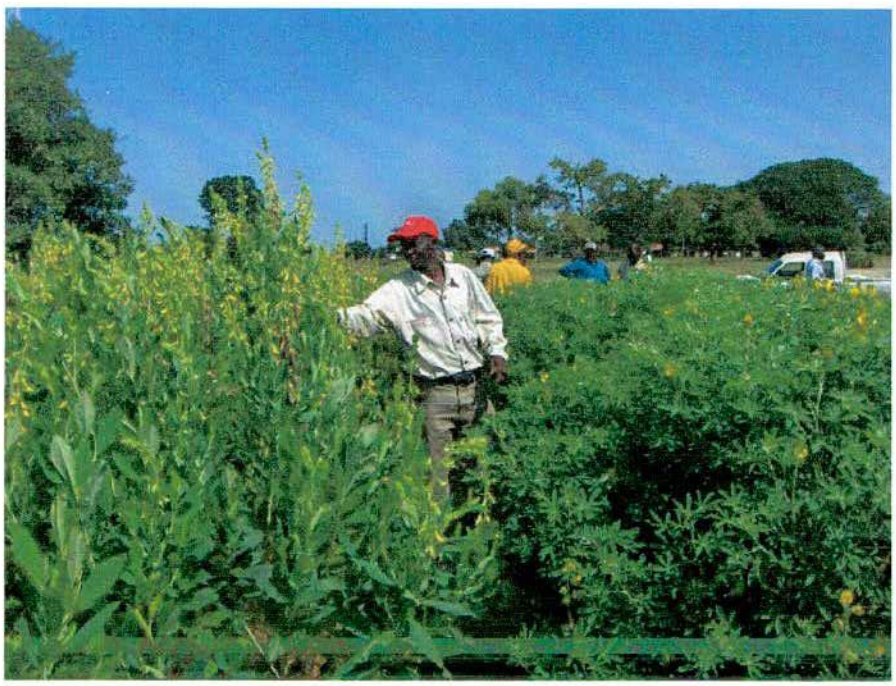
FIELD VISIT TO EASTERN LOWLANDS AND HIGHLANDS OF UGANDA

Field Report



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1.0 Introduction:

The agroforestry program held a protocol harmonization meeting for the eastern lowlands and highlands of Uganda in April 2005, in Mbale. Following this meeting, protocols were revisited and are presently at varying stages of implementation by the field staff.

In order to increase awareness about what is on the ground and harmonize work across sites, the program organized a field visit to eastern Uganda by specialized staff from the various components that took place 14th to 18th June 2005. The visit was also an opportunity for the teams to review their approaches in on-going and planned work. Specifically, the tasks at hand were:

1. Establishing the status of protocol implementation and share experiences with the field team;
2. Carrying out reconnaissance with the field team for the planned surveys;
3. Developing strategy for seed collection with the field team; and
4. Determining the status of data collection and management.

The following was the program for the field visit:

Day	Location	Activity
Wednesday, 14th June 2005	Mbale	Meeting with field staff
	Sironko	Field visit
Thursday, 16th June 2005	Tororo	Field visit
	Mbale	Field visit
		Re-cap meeting
Friday, 17th June 2005	Mbale	Survey strategy meeting
	Kumi	Field visit
Saturday, 18th June 2005	Iganga	Field visit
		Re-cap meeting

This report presents highlights of the field visit in three sections. First, issues raised in a meeting with the field team are presented. Secondly, the findings of each component from both on-farm and on-station trials are given. The last section outlines some recommendations and way forward derived from the lessons learnt in the field visits and discussions with field staff.

2.0 Highlights of the visit to eastern Uganda

2.1 Meeting with field team

Meeting was held at the agroforestry program offices in Mbale and started at 9:30 am. In attendance were the following:

Site team	Kifu team
Hillary Agaba	Katumba Balikitenda
Wandui Clet	Opolot Vincent
Ongodia Gerald	Nangatsa Robert
Byenek Simon Ogwal	Balitta Paul
Egwelu Milton	Oluk Richard
Ilebo George	Sekatuba Jude

The site leader, Agaba Hillary welcomed the team from Kifu. The Kifu team leader, Sekatuba Jude explained the aim of their visit and outlined the tasks at hand (see section 1.0). The need for increasing awareness about what is on ground was emphasized and this field pointed out to be aiming at addressing this.

In reaction to the team leader's brief, the meeting appreciated the necessity of regular communication between staff as this enhances joint responsibility over progress and enables sharing of skills. It was therefore seen necessary that a strategy be put in place to sustainably ensure this.

Thereafter, each component representative gave a briefing on the information they were interested in. These are summarized as below:

a) Wood and energy (Katumba)
b) Soil and water conservation (Opolot)
c) Improved fruits (Balitta)
d) Fodder (Sekatuba)
e) Seed collection strategy (Oluk).

Following this, the field team gave brief presentations highlighting activities that have been done under each component in all the districts since April 2005. These are outlined below:

a) Eastern lowlands

i) Wood and energy:

On-farm planting has been done with 27 farmers in Iganga (Magada sub-county), and species include *Grevillea robusta, Maesopsis eminii* and *Melia azedrach*. In Tororo, planting of *Cedrella serrata, Grevillea robusta, Sesbania sesban* and *Maesopsis eminii* has been done in Rubongi, Kisoko and Osukuru sub-counties with 209 farmers.

ii) Soil fertility management:

Sowing of the shrubs has been done in Tororo (40 farmers in Mukuju S/C) and Iganga (45 farmers in Magada and Nakalama S/C). In Kumi (Nyero sub-county), 40 farmers have been selected and are having 2 different lay outs i.e. broadcasting (type III) and line planting (type II).

iii) Improved fruits:

In Kumi (Nyero sub-county), 2 orange cultivars (Hamlin and Tangero) and 1 mango cultivar (Ngowen) have been given to 15 farmers.

b) Eastern highlands

i) Soil and water conservation

Soil and water conservation structures have been established in Bumbo (60 farmers) and Sironko (25 farmers), using *Calliandra* and *Leucaena*. Only 40 farmers managed to get 300 seedlings of *Calliandra*. Four farmers got *Leucaena diversifolia*. The planting was done in the presence of the FORRI field staff. Issues to note:-

- Land fragmentation was however a challenge that did not allow for a catchment approach. Some modifications thus had to be made to the protocols;
- 300 seedlings per farmer were also not enough to cover the farms. Seedlings from the nursery were not sufficient for the trial;
- The number of seedlings given to farmers varied;
- Not all the land in the catchment belonged to farmers resident in the village / catchment;
- Some farmers were not willing to plant the shrubs. Given the limited range of shrub species (*Calliandra* and *Leucaena*), some farmers did not hope to realize anything new.
- The characterization of farming systems was also not done as required by the protocols as the planting had to be done quickly to beat the rains.

ii) On-farm wood and energy

Five species were taken out for planting, including *Grevillea robusta* (30 trees per farmer), *Cordia africana* (20), *Melicia excelsa* (20), *Maesopsis eminii* (40) and *Canarium schweinfurthii* (10). These were mainly targeted at farmers hosting the soil and water conservation trial. *Cordia africana* was given to farmers with coffee shambas, while *Grevillea robusta* was to serve as reinforcement on contours.

In Bulago sub-county, 7 farmers were given *Grevillea robusta* which was the only species available. *Prunus africana* was intended to be given to 20 farmers but due to shortage of seedlings, it was restricted to on-station. Survival assessment has been done and is less than 50% due to untimely planting. However, beating up is on going. No activities have been embarked upon so far on the tree management protocol.

2.2 Visits to on-farm and on-station trials

2.2.1 Description of the field visits

The field visit to Sironko was done on Wednesday 15th June 2005. The team was guided by Moses Mutenyo, Clet Wandui and Byenek Simon. They visited Bulago sub-county and Buginyanya research station.

In Tororo, the team visited the central nursery located at the DATIC and the on-station improved fallow trials. On farm visits were subsequently made to farmers who had planted on farm wood and energy trees and improved fruit trees. The team was guided by James Ogwang and Egesa Livingstone.

The field visit to Mbale was carried out in Bumbo sub-county where a catchment approach is being used to test soil and water conservation technologies using *Calliandra* and *Leucaena* shrubs. The team was guided by Clet Masiga, Ogwal Simon Byenek and Egwelu Milton.

The field visits in Kumi were guided by George Ilebo. The team made a courtesy call to the district agriculture office before proceeding to fruit tree mother garden and improved fallow demonstration plot. On-farm visits addressed mainly improved fallow farmers, but also covered wood and energy, improved fruits and termite control trials. Some mango seed collections were also made.

In Iganga, the team was led by Samuel Esyara to farmers in Magada sub-county, carrying out on-farm trials of wood and energy trees, fodder shrubs, improved fallows and improved fruits.

2.2.2 Key issues from the field visits

The issues noted are presented under each component:

a) ***ii) Wood and energy***

In Sironko, more plantings for wood and energy are necessary given the serious wood shortage and low species diversity in most farming households. There is therefore need for scaling up on-farm wood and energy plantings if impact is to be realized. Some issues are specifically noted:-

- Work on *Prunus africana* involved 20 farmers chosen to carry out on farm trials. The experiment was however, not implemented according to protocol as distribution of seedlings to farmers was not standardized. Also the seedlings which were brought to Mbale central nursery had no labels. New plantings to make use of *Prunus africana* seedlings in nursery are planned as a type 3 trial. The on-station trial was well maintained and weeded (taungya).
- Pruning experiments: some mature trees were identified in Bulago that can be used for tree management / pruning trials.
- Four farmers carrying out the soil conservation experiment were given *Grevillea robusta* seedlings to plant and reinforce the conservation structures. More farmers could have been reached but the rains ran out.



Recent on-farm plantings of *Prunus africana*

In Tororo, several new plantings took place in April. Farmers were called at the central nursery and given 5 seedlings of each of 5 species (*Grevillea robusta, Maesopsis eminii, Milicia excelsa, Cedrella odorata and Cedrella serrata). Canarium schweinfurthii* was planted in small numbers due to shortage of seedlings. The trees have been planted on boundaries and homesteads at a spacing of 5x5m. Planting on boundaries was done 1m away from the boundary to avoid conflicts with the neighbors. The following were also noted:

- Performance assessments of the trees planted are over due.
- Data is yet to be collected on growth (height, root collar diameter and crown diameter).
- Survival gap filling is scheduled for next season when the rains come.
- Other than the termites, mole rats were reported by the farmers to be affecting survival of the tree seedlings.
- Farmers can not easily identify the species. It was therefore suggested that the farmers be helped to give local names or identification codes to enhance their participation in the assessments.

Overall, farmers visited in Tororo showed a lot of enthusiasm for the programme and requested for more tree seedlings especially *Grevillea robusta* and fruit trees such as jack fruit, mangoes and oranges.

In Mbale, the following tree species were given out to farmers for planting:

Species	Number of trees	Planting niche
Grevillea robusta	70	Home garden
Maesopsis eminii	100	,,
Cordia africana	50	Scattered on farm
Milicia excelsa	30	Farm boundary

Only 20 *Cordia africana* trees have been planted out of 50 given out due to fear that the tree creates excessive shade on croplands. Farmers were, however, encouraged to plant it as it can be managed through pruning, coppicing and pollarding.

In Kumi, only a small number of trees for wood and energy were planted. Most of these seedlings used for boundary planting dried out leading to need for gap filling. The generally bare landscape indicates need for scattered plantings, which can form the basis for an agroforestry system.

In Iganga, 27 farmers received seedlings *Leucaena, Grevillea robusta, Maesopsis eminii, Melia azedratch, Albizia chinensis* and *Sesbania sesban* through a contact farmer (Diope Christopher).Most farmers preferred *Cedrella odorata, Grevillea robusta, Maesopsis eminii* and *Albizia chinensis.* On the contrary, *Melia* was not preferred given its abundance locally. The farmer requested that promotion of wood and energy trees and fruit trees be scaled up. There is need to provide general training in wood aspects.

b) ~~a)~~ ***Soil and water conservation***

In Mbale, the soil and water conservation experiment has been established in 2 villages of Kisekere A&B in Bumbo sub-county. The species used included seedlings of *Calliandra* and *Leucaena*. However, shortage of seedlings affected the pattern of planting as it was only possible to plant seedlings on the upper parts of the catchment.

The lay-out of the experiment was also modified due to land fragmentation. Some of the land owners in the catchments targeted for the experiment reside in other villages and could not easily be mobilized. The spacing of the soil stabilization structures on the landscape was 10m apart, though this did not apply on the whole catchment because of the scenario highlighted above.

The shortage of seedlings for the experiment made it difficult to cover all the whole landscape. This was due to the length of the contours that was under estimated to be about 100m (300 plants spaced at 30cm apart) according to the protocol. For some farmers who planted early in the season, their establishments were seriously affected by the drought. However, they have started sprouting following some rains for the last few weeks.



Soil conservation structures in Bulago, Sironko district

Realizing that shortage of seedlings was curtailing the establishment of the structures, it was agreed together with the LC II, Mr. John Makatu to set-up a flying nursery in the area to offset the shortage and minimize on the drudgery involved in transportation of seedlings. Gravity water is available at the proposed nursery site.

The establishment was done hurriedly to beat the rains and some preliminary activities that were skipped need to be done urgently. These include:

- Soil sampling;
- Matching of cropping pattern and farming system;
- Mapping of the catchment; and
- Baseline survey and development of GIS information.

c) ~~b)~~ ***Improved fruits***

i) Temperate fruits trees:

The temperate fruit tree mother garden at Buginyanya station has been established and includes the following cultivars:

1) Apple trees

Five (5) apple cultivars have been introduced. These include Golden dorset, Red jonathan, Apple ana, Winter banana and Red boskerp. Four (4) trees of each cultivar have been planted.



Apple trees in an on-station trial in Buginyanya

Presently, the trees are about 30 to 40cm in height. There is urgent need to plan and time the various management practices. It was also noted that Apple ana cultivars have powdery mildews. This is being controlled by use of copper based fungicide.

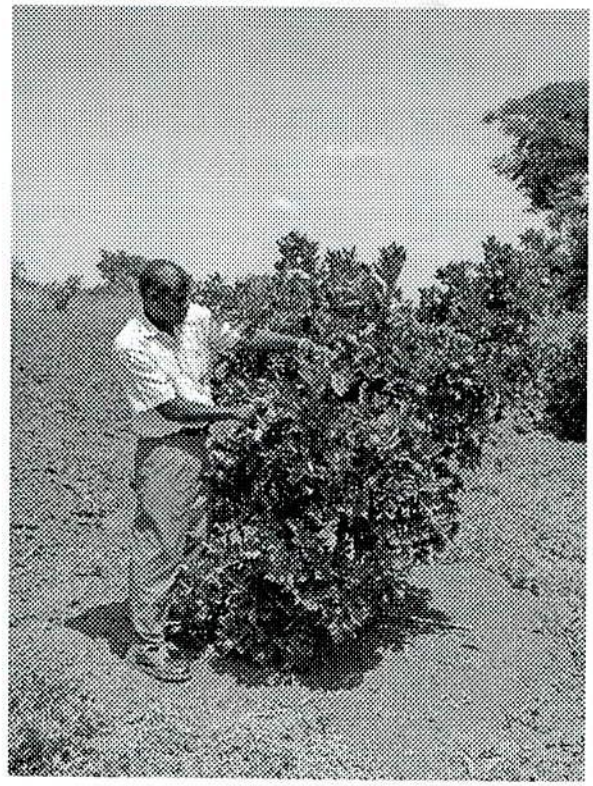
2) Pears seedlings

Four (4) cultivars of Pears were said to be available but have not been planted out. These are Taiwan hybrid, Supper dona, William crest and Naspal. The proposed planting site has been having *Grevillea robusta* trees since 1969. The programme staff is yet to get clearance form from Dr. Musaana on whether to go ahead with the planting.

ii) Tropical fruit trees

In Sironko, on-station trials planned for Bulegeni ARDC have not been set up yet. However, on-farm trials established earlier are making good progress.

In Tororo, the orange trees have started fruiting. The biophysical and yield assessment forms were given to the technician (Ogwang James) to follow up with the exercise.



Earlier planted orange trees are fruiting

For Mbale, the mangoes, avacados and oranges in Bumbo sub-county have started fruiting. Yield assessment forms were left with the technician (Milton Egwelu) to follow up with the data collection. The following were also noted:

- Fruit trees established around homes are being trampled by the grazing animals;
- Apple mangoes started bearing fruits which aborted; and
- Effects of leaf miners were also observed on the orange trees.

In Kumi, only 6 out of the 8 orange trees and 18 out of 30 mango trees planted in the central mother garden (under DFID project) were surviving. Both fruit types exhibited poor vigor and have not fruited yet after 2 years.

One of the farmers visited was Otimong John Frank, Chairman Agurut Agroforestry Farmers' Group. The oranges on his farm have started fruiting. Under the scaling up activity he received 11 orange seedlings. This farmer has gone ahead to graft more oranges and now has 120 orange trees. Another farmer, Samuel Ekawut originally received 4 orange trees, and during the scaling up activity got 11 more range seedlings. Through his grafting activities, this farmer has increased his number of orange trees to 28.

In Iganga, the oranges and mangoes have started fruiting. The forms for capturing yield data were availed to field staff. Note was taken of the fact that farmers visited complained of theft of fruits, which despite indicating increased interest in the improved fruit varieties, may in the other hand create difficulty in collecting accurate yield data.

d) ~~e)~~ ***Soil fertility management***

The on-station trial in Tororo comprised the sole stand and combination involving 4 species of shrubs (*Crotalaria ochloreuca, Crotalaria grahamiana, Tephrosia vogelli and Crotalaria paulina*). The post-fallow test crop of maize (Longe 5) was planted in April 2005 and is currently in advanced stages of growth (tussling).



Post fallow maize crop in a Tororo trial

The first weeding was done in the first week of May 2005. The following were note worthy:-

- Maize in combination of *C. grahamiana* + *T. vogelli* is performing best, followed by *C. paulina* (sole), relative to other treatments;
- Data on biomass, soil samples and heights were taken; and
- However labor for weeding the maize has not been paid, the debt remains outstanding.

On-farm, planting of the shrubs has not taken place because the farmers prioritized agricultural crops. Some group of 20 farmers in Mukuju Sub county are enthusiastic about the fallow technology, and hence have established a demonstration on the effect of the shrubs on soil fertility improvement. However, farmers still complain of caterpillars on the shrubs.

The tool for capturing data on profitability of improved fallows has not been circulated to the farmers. It was stressed to the field staff that as a matter of urgency this exercise is embarked upon with farmers going to plant the shrubs.

In Kumi, the on-station demonstration plot shrubs were supposed to be cut; however, this was not possible because of lack of funds. The cutting is therefore extended to suit a 12 months category. Alternatively, it will be left as a seed stand and to serve as a demonstration to show the improved fallow technology.

In Nyero Sub-county, 40 farmers were trained and given legume seed but did not plant due to shortness of the rains. The new farmers were not supposed to get type III, hence failure to estimate the broadcasting density was evident.

In Agurut, the farmer managed to cut the shrubs, but did not plant the test crop. Another farmer visited had standard weeding intervals for the shrubs and this has automatically affected the experiment in terms of the factors to be measured.

A farmer in Bukedea, did not have consistent weeding interval for post fallow maize, blaming it all to the field technician that had instructed him to wait for instructions. This has affected the comparison of the results. One interesting farmer cut the shrub at a height of 17cm instead of cutting the shrubs completely. All species had sprouted except *Crotalaria ochloreuca*.

Some general observations made in Kumi include:

- The trial should follow closely with fewer farmers rather than many to collect significant results since the work is overwhelming to the field staff. The criteria for selecting farmers in Kumi were doubted as most farmers are scattered far from each other constraining the work of the field staff.
- Many farmers do not seem to understand and/ or in position to explain the technologies they were taking on. To overcome this, it was suggested that the field staff develop an approach to help farmers understand the technologies they are demonstrating on their farms.
- There is a problem of monitoring and involvement of the local leaders at sub-county level in the implementation of the project activities.

In Iganga, at least 12 farmers have cut down the shrubs and planted the test crop (maize). Assessment was done in May 2005 for the maize test crop that had been planted in March. Seed for the new fallows has already been distributed, only awaiting record verification of those established.

e) Fodder Component

No protocols on fodder have been implemented since April. The protocols on soil and water conservation in Mbale and Sironko used fodder shrubs that can be built upon. In Tororo, however, some zero grazing farmers had lost their livestock resulting in reduced fodder production activities there.

2.2.3 Reconnaissance with the field team for the planned surveys

Meeting to discuss strategy for carrying out planned survey was held on the morning of Friday 16th June 2005. Two protocols were briefly presented; one on identification of indigenous trees and shrubs with potential for agroforestry and the other on assessing the acceptability of improved fallow technology in eastern Uganda.

2.2.4 Development of seed collection strategy

The purpose of this visit was to interact with the field staff and gather information necessary for developing a strategy for seed collection for the program. Specifically, this task aimed at:

- Ascertaining possible local source of germplasm (seed) for the production of seedlings for the planned activities; and
- Harmonizing seed sourcing so as to meet the demands of the programme activities for the next planned period.



A nursery worker in Tororo sorts seed collected

From the field visit in Magada sub-county, Iganga district, the following issues were identified:

- Discussions focused on local seed collections of *Grevillea.*
- Many farmers in Iganga are interested in Eucalyptus seed.
- The collection of lemon is on-going all the three districts.
- The farmers have seed stands of *Calliandra* and *Grevillea* where seed collection would be effected.
- Improved fallow shrub seeds should also be collected from the trials in Kumi.
- *Albizia chinensis* and fruit trees for Nakalama seedlings are required from Kifu.
- Suggested that during the meeting there is need to agree on the strategy of seed collection and identifying the potential species suitable across sites.

Currently, the quantities of seed collection are very small. The quantities of tree seed that can be collected for each district per season were estimated to be as follows:

District	Species	Quantities (kg)
Iganga	*Maesopsis eminii*	200
	Grevillea robusta	0.5
	Calliandra calothyrsus	5
	Senna siamea	2
	Leucaena diversifolia	0.5
Sironko	*Calliandra calothyrsus*	1.5
	Leuceana diversifolia	1
	Accacia angusitima	0.5
Mbale	*Grevillea robusta*	0.5
	Leuceana diversifolia	10
	Leuceana trichandra	3
	Gliricidia sepium	3
	Calliandra calothyrsus	2
	Casuarina equisetifolia	0.5
	Casuarina caninghamiana	0.5
Tororo	*Cedrella serata*	
	Cedrella odorata	
	Melia azadrach	
	Maesopsiss eminii	
	Acrocapus flaxifolias	
	Leucana spp	
	Calliandra calothyrsus	
	Grevillae robusta	
Kumi	*Mangifera indica*	
	Carisa edulis	
	Tamarindus indica	

For some districts, the field team gave a list of species and quantities of seed that are required but need to be purchased from elsewhere e.g. National Tree Seed Centre. These include the following:

District	Species	Quantities (kg)
Sironko & Mbale	*Sesbania sesban*	2
	Albizia chinensis	5
	Grevillea robusta	5
	Alnus acuminate	5
	Casuarina canninghamiana	2
	Callindra calothyrsus	10
	Leucaena pallida	5
Tororo	*Markhamia lutea*	
	Grevillea robusta	
	Milicia excelsa	
	Persea americana	
Iganga	*Cedrella spp*	
	Grevillea robusta	
	Prunus africana	
	Milicia excelsa	
	Eucalyptus spp	
	Melia azadrach	

All in all, timely seed collection is very important for nursery activities and tree planting, it is necessary for a seed collection strategy to be put in place. Seeds should be collected from old establishments e.g. *Grevillea robusta* involving farmers. There is also need to agree on the right species for each technology, for which seed is to be collected.

Concern was raised over labour requirements for seed collection and the need to avail funds for purchase of this seed from the farmers. Requisitions for purchase of seed are not given priority in time, yet when time for planting comes the seedlings are required urgently.

2.2.5 Status of data collection and management

Data collection and management is a big challenge to program staff. The level of communication between field staff and components is low and needs to be enhanced. Components sometimes do not furnish the field staff with the exact parameters on which data is needed, which hampers timely collection. Some tools were availed for sharing but discussion was postponed to enable fieldwork in Kumi.

3.0 Recommendations and way forward

3.1 Protocol implementation

3.1.1 Wood and energy:

- There is need to start collecting biophysical and socioeconomic data for farmers who planted trees in all sites (survival data is present). Data forms will be designed centrally and forwarded to field teams.
- The tree species need to be coded or labeled so that farmers are aware of what they planted and for what purpose.
- Concentrate on a few popular species (type III) in all districts with old farmers; while testing other species in all other sites in all districts.
- Sensitization on:
  - purpose of trials was lacking
  - tree names and use
  - management practices

  We need to pick representative samples who will work as our model farmers in this year.
- We need to plant the *Prunus africana* in a type III trial since they do not have labels and use the remaining in the Buginyanya nursery for beating up the on-station trial.

3.1.2 Soil and water conservation

- The protocol hypothesis of 100m contour length needs to be reviewed since it is practically found that most contours run longer than that.
- Related to the above, implies that the joint recommendation made with L.C II chairperson Mr John Makata of Kisekere village to establish a flying nursery to meet the planting needs should be effected as soon as possible.
- The issue of land fragmentation affecting the catchment approach due to non-resident landowners requires local negotiation for neighbors if possible to be allowed to establish the soil stabilization structures on the existing contours.
- There is also need to use an integrated approach of technology interventions such as introduction of fruit trees and planting of *Grevillea robusta* for wood and energy along the contours to diversify on the service and product provision.
- The re is also need to stagger the planting into phases to meet the production level of the seedlings for *Calliandra* and *Leuceana*.
- To address the current gap, there is need to involve Extensionist and local leadership in the technology transfers to ensure its diffusion and sustainability.

3.1.3 Soil fertility improvement

- The improved fallow demo in Mukuju, sub-county (Tororo), is to be accompanied by five-pest and disease observation type III trials. This is due to the common caterpillar that attacks the shrubs and the farmers want to test the *Tephrosia Vogelii* repelling capacity.

- The six months demo trial of fallow on-station in Kumi that could not be cut due to lack of funding would be modified as a 12 months trial for the establishment of a test crop in 2006 A season. But now can be used for seed sourcing and field training.
- The new farmer in Nyero parish in Kumi who got the fallow seed for type III trials need closer and frequent monitoring as they are completely green of what the whole exercise is all about as opposed to those who were already testing on type III trials.
- The coppicing capability if the fallow shrubs of cut above 10cm from the ground as noticed from one farmer field in Koceka in Bukedea, Kumi needs future scientific management probe.
- The newly formed farmer teams in Iganga need to be followed before the end of the season to establish the actual number of farmers testing the technology.
- All in all is that, the next strategy on improved fallows should embark in the type III trials for all testing farmers in the coming season.

3.1.4 Improved fruits

- In order to be able to recommend the best performing and well adapted orange, mango and avocado cultivars there is need to carry out a yield and biophysical assessment.
- Both the biophysical and yield assessments should be done by both field programme staff and the participating farmers using the developed assessment forms.
- The fruit specialist Dr. Musaana needs to travel to Buginyanya and train programme staff in carrying out initial management practices for apples trees.
- Dr. Musaana to decide whether the proposed site planting Pears which has been under *Grevillea robusta* since 1969 is suitable for temperate tree growing.
- Assemble seedlings of mango, orange and avocado cultivars for Nakalama farmers in Iganga to be planted out during the August/September rainy season.
- Organize to plant out the Bulegeni on-station improved fruit tree trial and another on-farm trial in waterlogged areas.
- Train farmers in pest and disease management using chemical and indigenous knowledge.
- Train farmers in selection of good fruit mother tree, scion identification, rootstock production, grafting and budding to enable farmers produce improved fruit seedlings for their planting and for sell.

3.1.5 Fodder production

- The programme needs to urgently get in touch with Dr. Byenkya to establish whether he can still provide backstopping on fodder component.
- Some fodder protocols be developed and incorporated into the soil and water conservation plantings of fodder shrubs.

- Report on indigenous fodder survey (Eastern lowlands & highlands) be completed and circulated as it forms basis for further work in this area.

3.2 Surveys

- Two surveys have been ear-marked for implementation (i.e. identification of indigenous tree species for agroforestry; and assessing acceptability of improved fallows in eastern Uganda).
- Tools and budgets for all pending surveys be developed and shared among staff so that immediately funds are available, these activities are carried out.
- Parameters for capturing socio-economic data of farmers carrying out should be circulated to field staff to enable collection of this data.
- Wealth categorization of farmers is also overdue methods and tools for carrying out this activity ought to be shared as soon as possible.

3.3 Seed collection strategy

- Need to always monitor seeding regimes of identified mother trees.
- Seed collection should be given a high priority among the program activities.
- Seed collected should be centred in one site, and then distributed across programme sites.

3.4 Data collection

- Each component should develop a timetable on when to do next assessment and data collection is due, and avail this to field staff.
- Field staff should always capture soft data especially on the "whys" (e.g. why some farmers want *Grevillea robusta* and others do not?) as this information are useful in understanding adoption of the technologies.