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THE FARMER TRAINERS APPROACH IN TECHNOLOGY DISSEMINATION IN UGANDA: FARMER TRAINERS AND TRAINEES PERSPECTIVES

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WORKING PAPER

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SUMMARY

This working paper presents the results of the first phase of a study that aims to determine the effectiveness of the farmer trainers approach in the dissemination of feed technologies in the East Africa Dairy Development Project (EADD). The starting point of this study is in the recognition that public sector extension services are no longer able to provide small scale farmers with adequate extension services. As a result, new approaches and mechanisms are being developed to fill the gap. One such approach that is being used by the EADD project is the volunteer farmer trainers approach. It is a form of farmer-to farmer extension where farmers host demonstration plots and take centre stage in information sharing. Although this approach has been in use in the EADD project since its inception in 2008, not much is understood about its effectiveness. A study was therefore initiated to assess its effectiveness. The study was organised into three phases. The first phase, which is the subject of this report, is an exploratory informal survey to collect qualitative data from both the trainers and trainees to be used in formulating hypothesis for more in depth formal surveys in the next phases. Group discussions were held in three sites of the EADD project in three districts, namely Jinja, Mukono and Mityana to get the perceptions of farmer trainers and trainees on the effectiveness of the approach.

Farmer trainers have served an average of 15.6 months and train an average of 5 trainees per month. Most of them undertake their activities by foot and a few use their own bicycles. Farmer trainers use various means of mobilizing farmers for their training sessions. Training sessions are normally held at trading centres, local county halls, demonstration sites and homesteads of trainees and trainers. Farmer trainers are motivated by the desire to gain more knowledge/skills, improve their own livelihoods and those of other farmers in the community and becoming popular among other factors. Some of the costs that farmer trainers incur are: transport, time and bicycle maintenance. Benefits received range from gaining knowledge and skills, popularity, increasing social networks to satisfaction. Challenges faced include transport, lack of training materials and family conflicts involving some farmer trainees and their spouses. Some of the low-cost opportunities for improving the approach include provision of training materials (manila paper, marker pen, sample seeds) and certification of farmer trainers. If resources are available, bicycles would help improve performance. Farmer trainers are an important source of information to farmers. Rating of topics taught by trainers was mixed with some topics being

rated highly in terms of relevance, understanding and ease of use while others were rated low. On technology uptake by farmer trainees, the highest uptake was for Napier (Elephant) grass and pasture improvement (50%), followed by calliandra (47%). Other technologies such as silage, hay, lablab, leuceana and setaria had less than 30% uptake.

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1.0 INTRODUCTION

It is increasingly acknowledged that public extension services in developing countries are no longer able to meet the changing needs of farmers. As a result, the sector has over the last decade, been going through a transformative process from the linear model of technology transfer to the more pluralistic demand driven extension. Despite the transformation, extension in Africa is still faced with many challenges which have been accelerated by structural adjustment reforms aimed at reduced public spending. Some of the challenges include low budgetary allocation, understaffing and low staff morale due to poor remuneration (Kiptot et al. 2006; Gautam, 2000). Passivity at the community level and a tendency to treat all farmers, their contexts and needs as homogenous are additional invisible contributions to the failure of state extension programmes (Isubikalu, 2007). It is against this background that NGOs have stepped in to fill the gap. They are advocating for participatory, demand driven, client-oriented and farmer led agricultural extension systems, with emphasis on targeting the poor and women. These approaches focus on farmers as the principle agents of change in their communities. The role of extension officers is also changing from agents of technical messages to facilitators. For these new approaches to be institutionalized in the mainstream extension service they must demonstrate their superiority over old approaches, i.e. being able to be accountable to their clients, ensure sustainability; this is especially crucial in times of scarcity of public funds and be effective in disseminating new technologies. Examples of some of the innovative approaches include Farmer Field Schools, Local Agricultural Research Committees and Farmer Trainers Approach

The volunteer farmer trainers approach is a form of farmer-to-farmer extension where farmers take centre stage in information sharing. It is envisaged that farmer led extension is a more viable method of technology dissemination as it is based on the conviction that farmers can disseminate innovations better than extension agents because they have an in depth knowledge of local conditions, culture, practices and are known by other farmers. In addition, they live in the community, speak the same language, use expressions that suit their environment and also instil confidence in their fellow farmers (Weinand 2002; Sinja et al. 2004; Lenoir, 2009; Mulanda et al., 1999). At the same time, it is important to recognize that volunteer farmer trainers rely on

extension staff for training and for addressing problems, e.g., identifying a new disease, that they cannot handle. The farmer trainers are thus a complement to extension staff, rather than a substitute.

The East Africa Dairy Development Project (EADD) which is a collaborative venture between Heifer International, Technoserve, International Livestock Research Centre (ILRI), African Breeders Services (ABS) and The World Agroforestry Centre (ICRAF) is using the farmer trainers approach to disseminate feed technologies. The project started in 2008 with its main objective being to double the incomes of 179,000 dairy farmers in Kenya, Uganda and Rwanda through improved dairy production and marketing. ICRAF leads the project's feeding systems component. In order to meet its targets, the project has been using volunteer farmer trainers to disseminate dairy technologies to other farmers within their communities. As of June 2011, EADD had recruited 2157 farmer trainers who are operating in Kenya, Uganda and Rwanda. Uganda has 1014 trainers (Kirui, 2011). The selection of farmer trainers in the EADD Project is a participatory process involving farmers, locational representatives and the management committee of the chilling plant in each project site. The farmer trainers are volunteers selected mainly on the basis of being good communicators, interest, being an active dairy farmer i.e. a member of a dairy management/interest group (DMG/DIG) and be willing to give part of his/her land for demonstration purposes (Kirui et al. 2009). Each of the three countries involved in the EADD project has its own criteria of selecting farmer trainers. In Uganda the trainers are selected based on the following criteria:

- Be a Ugandan by nationality
- Have the ability to read and write (at least in the local language)
- Have the ability to interpret/ translate extension/training material to/ for farmers. The ability by farmers and farmer trainers to write notes during training session is crucial and important as they can be used for future reference.

- Being a member to the cooperatives selected by the EADD.

  The cooperatives should have solid incomes and assets which could be used to facilitate transfer of knowledge from one member to another.

- Must be a farmer with his/her main source of income based on agriculture.

  Individual with non agricultural business/enterprises/occupation/engagement are not good choices for farmer trainers because they will not always be available when needed. Farmer trainers actively engaged in agricultural enterprises will always be interested in new techniques and methods of farming and are likely to, willingly, pass on the knowledge.

- Having a leadership role. This is not mandatory but farmers tend to have trust and confidence for their leaders that the project can build on to facilitate the effective transfer of information across several audiences in a short time.

- Being honest, with good reputation and known to local authorities as good citizens.

  People with good reputation are liked by many and easily chosen to lead others in a given task. There is trust in them and therefore should be given high priority.

- Being a permanent resident in a particular site of the EADD area is important as the trainer can be relied upon to train farmers even after the project phases out.

The trainers are given training in feeds and feeding methods by dissemination facilitators and seed for setting up demonstration plots of various feed technologies on their farms. In addition, they are often exposed through educational tours to innovative farms. They disseminate information to other farmers without pay.

Although the farmer trainers approach used by the EADD project has the potential to spread innovations to many farmers within their community, not much is understood about its effectiveness and sustainability. Several studies have in the past assessed the effectiveness of this approach elsewhere, however, the findings are mixed and therefore cannot be generalised to the farmer trainers approach used by EADD project. This is because of differences in the mode of operation and local circumstances. The *Kamoyog* approach in Peru for example, has been reported to be successful partly because the trainers are paid for their services in cash, in kind, or in the promise of future help by their fellow farmers (Hellin et al. 2006). In Malawi, Weinand (2002) found that there was a lot of mistrust, jealousy and gossip among trainees because they do

not believe that the trainers are not compensated for the work they do. This may in future jeopardise the sustainability of the approach. Furthermore, farmer trainers in Malawi are as a matter of fact not different from the master farmers or contact farmers (higher social and economic status) because of the criteria used in selection. What this means is that the poor may still end up being marginalized. In Kenya, Amudavi et al. (2009) assessed the technical efficiency of the farmer trainers' approach in the dissemination of the push-pull technology in western Kenya, and their findings were positive, with the approach showing a significant multiplier effect in increasing the push pull technology uptake among farmers. In Peru, the effectiveness of the *kamayog* was measured by assessing the livelihood impact on farmers. The results were positive, i.e. an increase in financial, human and social capital (Hellin and Dixon 2008). The implication of these findings is that every situation is different and for us to understand the effectiveness of the farmer's trainers approach in the EADD project it is important that a study is carried out. Such information would help development agencies improve the functioning of such programmes and enhance their effectiveness in technology transfer and sustainability.

Assessing effectiveness

Several authors have in the past used different methods to assess the effectiveness of the farmer trainers approach in different countries. Effectiveness can be looked at from different perspectives. Hellin and Dixon (2008) for instance measured the effectiveness of the farmer to farmer extension approach in the Andes by looking at the livelihood impact of the approach. They used the framework of the sustainable livelihood approach whereby five indicators; financial, social, human, natural and physical capital were used to measure the impact of the approach on the livelihoods of farmers. In contrast, Amudavi et al. (2009) looked at technical efficiency of the farmer trainers' approach whereby various parameters were assessed; farmers knowledge of and skills about the push and pull technology, diffusion and uptake. Weinand (2002) and Lukuyu et al. (2009) assessed trainees' perception of the farmer trainers' approach, motivational incentives, technologies disseminated and opportunities and constraints of the approach in Malawi and western Kenya respectively. This study will look at the effectiveness of

the approach in terms of number of farmers reached, quality of information passed on, technologies disseminated and ability to reach women and poor farmers. In addition, factors influencing performance of trainers (social status, education, wealth, farm size, gender) and incentive measures for farmer trainers will also be assessed. It is expected that such information will assist development agencies design extension programs that are effective and sustainable.

2.0 METHODOLOGY

2.1 Sites and number of farmer trainers and trainees

The EADD project in Uganda operates in four clusters. The clusters are Kiboga which has 13 sites namely; Bubusi Dairy Farmers Coop (Bubusi), Bukomero, Kiboga West Coop Society (Kyankwanzi), Dwaniro SALL Cooler, Lwamata SALL, Nsambya Livestock Coop (Nsambya), Tusubira Women Livestock Coop (Mityana), Zigoti, Kageye Kasangati Dairy Coop (Kasangati), Kasangati Dairy Coop (Kasangati, Kisubi, Buloba SALL Cooler (Buloba), Mperewe. The second cluster is Masaka which has 7 sites namely; Maddu Farmers Cooperative Society Ltd, Sembabbule TC SALL cooler (Sembabbule), Kyabi, Mitala-maria, Nabitanga Dairy Farmers Coop (Nabitanga), MADDO (Masaka), Lugusulu Coop Ltd (Mitima). The third cluster is Masindi which has six sites namely; Luwero Dairy Development Cooperative Society (Luwero), Kamira, Kinyogoga Livestock Cooperative. (Kinyogoga), Nabiswera Dairy Farmers Cooperative (Nabiswera), Ngoma Dairy Farmers Cooperative (Ngoma) and Wabigalo/Katugo. The fourth cluster is Mukono which has 4 sites namely; Mukono, Bugerere Dairy Farmers Cooperative (Bbaale), Jinja and Kirinya. The informal survey was conducted in three EADD sites in Uganda spread across the clusters (Table 1) namely, Tusubira Women Livestock Cooperative (Mityana) in Kiboga cluster, Mukono and Jinja in Mukono cluster. The selection was based on the fact that the farmer trainers have served much longer than other clusters. Masindi and Masaka clusters were not represented due to logistical reasons. They will however be represented in the formal survey. There were 29 farmer trainers, 19 male and 10 female (Table 1). The trainees were 30, of which 18 were female and 12 male (Table 2).

2.2 Method

There are three phases of the study. Phase 1 which is the subject of this report is an exploratory informal survey to: (i) collect qualitative data from both the trainers and trainees to be used in formulating hypothesis for a more in depth formal survey which will take place in phase II of the study, (ii) build adequate rapport with the farmer trainers and trainees, a fundamental requirement for the subsequent formal survey (iii) gain a general understanding of the technologies being disseminated and the perceptions of the farmer trainers and trainees.

Group discussions were held in each of the 3 sites with 5-20 farmer trainers and trainees to get their perception on the farmer trainers approach in technology dissemination. Topics discussed with farmer trainers were: length of time served, distance covered, mode of transport used, number of farmers trained, technologies disseminated, challenges faced and opportunities to improve the farmer trainers approach. The farmer trainees on the other hand were engaged in evaluating their trainers in terms of their attributes, technologies disseminated and the number of adopters of various technologies among other issues discussed in this report.

Table 1. Study sites and number of farmer trainers who participated

Name of site	No. of male trainers	No. of female trainers	Total No. of trainers
Jinja	11	6	17
Mukono	1	2	3
Mityana	7	2	9
TOTAL	19	10	29

Table 2. Study sites and number of farmer trainees who participated

Name of site	No. of male trainees	No. of female trainees	Total No. of trainees
Jinja	5	10	15
Mukono	3	5	8
Mityana	4	3	7
TOTAL	12	18	30

3.0 RESULTS AND DISCUSSION

3.1. FARMER TRAINERS PERSPECTIVES

Length of time farmer trainers have served

A majority of farmer trainers interviewed (58%) have served as trainers for about 16-20 months, slightly less than 2 years.

Table 3. Length of time farmer trainers have served in months

Length of time (months)	No. of farmer trainers (n=29)
<3	0
3-5	0
5-10	0
10-15	11
16-20	17
21-25	0
26-30	1

Average distance covered by farmer trainers

46% of the respondents cover an average distance of 6-10 km per day, followed by 32% who cover an average of 1-5 km per day. 2 trainers from Buwenge sub country in Jinja district indicated that they cover an average of 68 km each.

Table 4. Average distance covered by farmer trainers per day

Distance (km)	No of farmer trainers (n=28)
1-5	9
6-10	13
11-15	2
16-20	1
21-25	1
Over 25	2

Mode of transport used by trainers

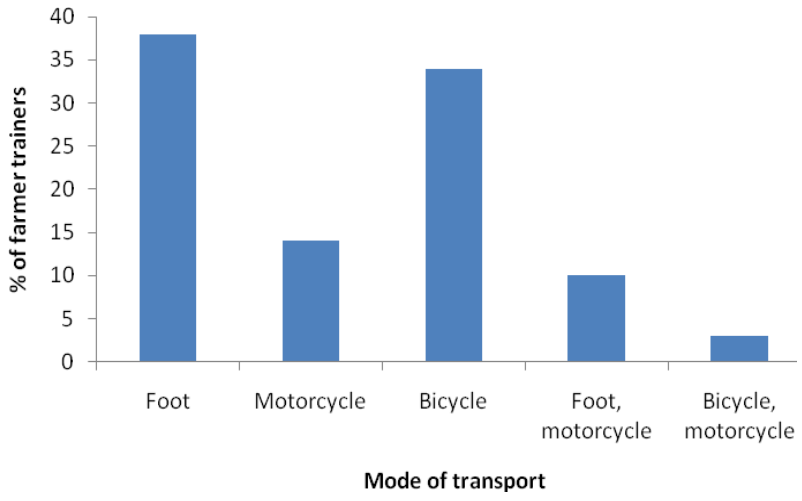

Figure 1. Mode of transport used by farmer trainers

38% of farmer trainers walk when undertaking their dissemination activities. Another 34% use their own bicycles. Those who walk lamented that they spend so much time on the road. A few (3%) used their own motorcycles and bicycles (Figure 1)

Number of farmer trainees trained by trainers

Most trainers interviewed have trained less than 100 trainees. There are however a few exceptional "super" trainers who have trained more than 100 trainees (Table 5). Farmer trainers who have trained over 100 trainees are Bakaki G, Mwase M, Wakomera Annet, Wahe Loy, Kagawa J, Kifebanakolanga F, Nabeeta, H. all from Bugulumya sub county. Others are Madina Nantongo Wamuti from Kasayi village, Dundu parish, Mukono district. Nalongo Mukasa from Sangala village, Kitemu Parish of Mityana District has trained about 200 trainees. Average length of time served is about 16 months and the mean number of trainees trained per month is a 4.7 and the median is 5.1 (Table 6).

Farmer trainers in Buwenge subcounty, Jinja district (Photo: E.Kiptot)

Table 5. % of farmer trainees trained by trainers

No. of trainees trained	% of respondents (n=29)
<10	0
10-20	3
21-30	7
31-40	10
41-50	14
51-60	10
61-70	14
71-80	7
81-90	3
91-100	3
101-150	24
151-200	3

Farmer trainees from Tusubira heifer project in Mityana district (Photo: E.Kiptot)

Table 6: Farmer trainers versus length of time served

Site	Time served (months)	No. trainees trained	Average/month
Mukono	12	40	3.3
	17	100	5.9
	12	62	5.2
Mityana	10	60	6.0
	11	85	7.7
	14	70	5.0
	10	50	5.0
	9	20	2.2
	11	60	5.5
	12	38	3.2
	13	200	15.4
	14	80	5.7
Jinja	18	100	5.6
	18	100	5.6
	18	100	5.6
	18	70	3.9
	18	60	3.3
	18	70	3.9
	18	30	1.7
	18	100	5.6
	18	100	5.6
	18	100	5.6
	18	75	4.2
	18	47	2.6
	18	50	2.8
	18	30	1.7
	18	46	2.6
	18	40	2.2
	18	100	5.6
Average	**15.6**	**71.8**	**4.7**

How farmer trainers mobilize farmers for training

- Mobilization through local leaders
- Mobilization through C/P local council 1
- Announcements in churches, schools, mosques
- House to house visits

- Publicise through social functions such as burial ceremonies, weddings, introduction ceremonies, graduation, immunisation gatherings, when drinking before getting drunk
- Telephone calls, local radios, letters
- Posters displayed at trading centres
- Announcements during group meetings
- Fixing appointments for next trainings in meeting

Venues where meetings are held

- Trading centres
- Farmer trainers' homes
- Local county halls
- Farmer trainee homes
- At demonstration sites
- Open air under trees
- Nearby schools and churches

Motivation

Respondents were asked to discuss the factors that motivated them to become trainers and the reasons why they continue being trainers. Desire to transform the community through improved livelihoods and the desire to improve milk production were the two most important reasons mentioned by trainers across the three sites. Other reasons are: to access new knowledge, become famous and be empowered among other factors outlined in Table 7.

Table 7. Factors that motivated farmers to become trainers

Motivation before becoming trainers	Study sites		
	Jinja	Mukono	Mityana
Desire to alleviate poverty	✓		
Desire to transform the community through improved livelihoods	✓	✓	✓
To access new knowledge	✓		
To become famous	✓		
To be empowered	✓		
Spirit of sharing knowledge		✓	
Increase milk production	✓	✓	✓
Reduce disease incidences in the area		✓	
Transform fellow farmers from subsistence to commercial farming		✓	
To receive training ad gain knowledge			✓
Selected by other farmers			✓
Opportunity for exchange visits			✓
Already hosting a demonstration plot			✓
Interest in farming	✓		

Factors that motivates farmers to continue being trainers

Increased milk production is the most important factor mentioned by trainers across the three sites. Other factors mentioned are the desire to gain more knowledge/skills, desire to continue training, increase social networks, satisfaction, to become known in the community and to gain confidence (Table 8).

Table 8. Factors that motivates farmers to continue being trainers

Reasons	Study sites		
	Jinja	Mukono	Mityana
Increased milk production	✓	✓	✓
Desire to gain more knowledge/skills/trainings	✓		✓
To keep busy			✓
The desire to train and improve livelihoods	✓		✓
To become known in the community	✓		
Increase social networks	✓		
Access new innovations/ technologies	✓		
Gain more confidence	✓		
Given priority by EADD	✓		
Increased household income	✓	✓	
Collective marketing of milk		✓	
Training others brings satisfaction		✓	✓
To sustain increased milk production in the community		✓	
Good things come to those who sacrifice to assist others		✓	
To become popular and wealthy		✓	

Farmer trainer dropouts and reasons

Some farmer trainers are known to have dropped out. Reasons given by their fellow farmer trainers in Mukono, Jinja and Mityana were;

- No salary
- Many responsibilities
- No tangible benefits
- Lack of transport
- Low trainee turn outs
- Time wasting

Technologies disseminated by farmer trainers

Calliandra and Elephant grass (Napier grass) have been disseminated by over 50% of farmer trainers. Technologies that have been disseminated by less than 10% of the trainers are feed conservation, lucerne, feed formulation/rationing, sweet potato vines, sirato, nursery establishment, Panicum and Guetamala grass (Table 9).

Table 9. Technology dissemination

Technology	% of farmer trainers (n=22)
Feed conservation	5
Pasture management/improvement	14
Feed/ration formulation	9
Lucerne	9
Calliandra	68
Elephant grass (Napier)	64
Giant setaria	32
Lablab	36
Hay making	18
Sweet potato vines	5
Centrocema	18
Sirato	5
Sesbania	18
Silage making	23
Tree nursery establishment	5
Luceana	5
Mineral supplementation	5
Panicum	5
Mucuna	36
Guetemala	5

Farmer trainers' costs and benefits

Costs incurred by farmer trainers as they undertake their dissemination activities include transport, time they spend training/attending meetings, lunch, seed they give to trainees or use during training. For trainers who use their own bicycles and motorcycle, costs incurred are maintenance due to tear/wear. Most of the benefits received are not measurable. They include gaining knowledge and skills, popularity, increased number of friends, being kept busy among other benefits. Other benefits are income received from sale of seed and consultancy services in livestock management (Table 10)

Table 10. Farmer trainers' costs and benefits

Costs	Benefits
Transport expenses	Knowledge and skills
Airtime	Popularity (Vie for political seats)
Time	Increased number of friends
Lunch expenses	Trainings and exchange visits
Bicycle maintenance	Behavioural change
Motorcycle wear and tear	Being busy keeps them young (no stress)
Hire furniture	Income from sale of milk
Seed	Knowing different places
	Getting associated with success
	Income through sale of seed
	Have opportunity to become model farmers for NAADS (National Agricultural Advisory Services)
	A springboard to leadership positions in agricultural related events
	Consultants in livestock management

Time spent training

Farmer trainers were asked to recall the time they spend training in the month preceding the informal survey, August 2010. Most trainers spent about 11-20 hours training (Table 11). Some had difficulties recalling but with further probing they were able to calculate the time based on the number of days and hours they train in a week (most of them have set aside time for training). Others do it twice a month or once a week depending on their schedules.

Table 11. Time spent by farmer trainers in August 2010

Time (hours)	No. of trainers (n=29)
1-10	7
11-20	15
21-30	3
31-40	4

CHALLENGES FACED BY FARMER TRAINERS

Farmer trainers face a lot of challenges when undertaking dissemination activities. The most frequently mentioned challenges across the three sites are lack of transport, certification and training materials (manila paper, sample seeds, marker pens). Other challenges include working under difficult conditions especially during the rains, not having enough training, families affected by HIV are stigmatised and therefore do not participate actively in trainings. Because of the popularity some of trainers gain, political leaders feel threatened (Table 12).

Table 12. Challenges faced by farmer trainers

Challenges	**Study site**		
	Jinja	**Mukono**	**Mityana**
Lack of transport	✓	✓	✓
Lack of certification	✓	✓	✓
Work under difficult conditions during the rains	✓	✓	
Lack of training materials	✓	✓	✓
Poverty	✓		
Not given certificates of attendance after training	✓		
Lack of diaries	✓		
Lack of study tours	✓		
Lack of allowances (out of pocket)	✓		
Slow learners are a discouragement	✓	✓	
Illiteracy a hindrance	✓		
Family conflicts among farmers (Husband not allowing wife to attend meetings	✓	✓	
Families with HIV do not participate actively because of stigma	✓		
Not enough training	✓	✓	
A threat to political leaders in the area		✓	
Low turnout of trainees during the wet season		✓	✓
Low turnout for agricultural related events compared to political meetings		✓	✓
Low turnout for men		✓	
Lack of transport		✓	✓
High expectation from the trainees (allowances, seed)			✓
Lunch for trainees			✓

Opportunities to improve the effectiveness of the trainer's approach

Each and every challenge was discussed and various suggestions were proposed by farmer trainers on how to address them. Some of the opportunities to improve the effectiveness of the trainers' approach that respondents suggested were: EADD should provide bicycles to ease transport costs, training materials, airtime (most farmer trainers have mobile phones) and identification/certification (badges, T-shirts, caps, with the EADD logo). On the issue of low turnout, the trainers agreed that all training sessions need be held in the afternoons. Secondly, conducting trainings during the political campaign period should be avoided. On HIV/AIDS, families affected should be provided with counselling while other members of the community need to be given more training and sensitization so that they do not stigmatise people living with HIV/AIDS and also learn how to handle families and individuals affected by it (Table 13).

How training needs are identified

EADD has been using the top down approach. No consultations with the trainers. The process according to farmer trainers, should be bottom up, that is consultative whereby farmer trainers make annual work plans which include their training needs.

Other organisations disseminating information on feeds

- Heifer International
- SCC-Vi Agroforestry Programme
- NAADS Programme

Role of local leaders

Local leaders play a very crucial role in dissemination activities. They re-organise and mobilise people/community to implement feed technologies, solve disputes in families (when husband and wife have conflicts related to training and implementation of improved feed technologies). They also provide security and encourage farmers to implement what they have learnt.

Table 13. Opportunities to improve the effectiveness of the trainers approach

Opportunities	Site		
	Jinja	**Mukono**	**Mityana**
EADD should provide bicycles	✓		✓
EADD should provide training materials		✓	✓
EADD should provide airtime			✓
Farmer trainers should sell seed to boost their income			✓
Change training time to the afternoon to avoid low turn out			✓
Training and sensitization about HIV/AIDS			✓
Arrange training in the dry season			✓
Engage local leaders			✓
Provision of T-shirts, badges, bags	✓	✓	
Involve the community in income generating activities to alleviate poverty	✓		
Provision of certificates after training	✓		
Provision of diaries	✓		
More tours to be organised	✓		
Out of pocket allowances should be given to trainers	✓		
Trainers need to be patient about slow learners	✓		
Simplify technical information for all to understand (i.e. the use of graphics)	✓		
Counselling services should be provided to persons affected by HIV/AIDS	✓		
More training for trainers		✓	
The role of trainers need to be clearly explained to local leaders		✓	
Both spouses should be invited to training sessions		✓	
Provision of umbrellas and gumboots		✓	
Close monitoring and follow ups should be undertaken		✓	
Women should sensitise their husbands		✓	
Transport refund		✓	

Record keeping

All respondents kept records of the activities they undertake. These include; a register of visitors, production of milk/crops, cash inflow and outflow and various management activities on farm. There is however no uniform format on how to keep records.

3.2 PART II: FARMER TRAINEES PERSPECTIVES

Sources of information on feed technologies

Various sources of information were mentioned and ranked by trainers (Table 14). Ranking was done based on the most important to the least. EADD farmer trainers were ranked number one in Jinja and Mityana while farmer trainers in Mukono ranked second. Other important sources of information are field days, farmer groups and extension workers.

The number of times trainees have been trained

Three quarters of the trainees have been trained less than five times since the inception of the project in 2008 (Table 15). The number of times trainers have been trained depends on when they started participating in training and the schedules of the trainers. The approach used by trainers is having different farmer groups converge at demonstration sites or in some occasions the trainer visits trainees on their farms to either train or give advice.

Table 14. Sources of information on feed technologies

Sources of information	Study sites		
	Jinja	Mukono	Mityana
		Rank	
EADD farmer trainers	1	2	1
EADD partners (e.g., Heifer International)		7	5
NAADS	4		
Radio		9	
Farmer groups	2	5	
Workshops/seminars			
Agricultural shows	5		4
Study tours			
Uganda National Farmers Federation	3		
VEDCO			
Extension workers		1	6
Training of Trainers		3	
IEC Materials (Brochures, leaflets)		8	
Television		10	
Road shows/video		11	
Exchange visits		4	3
Sub county and district Veterinary and animal production departments		6	
Field days			2

Table 15. The number of times trainees have been trained

No. of times	No. of trainees (n=30)	Approach
>5	24	Group, farm visits
5-10	3	Group, farm visits
<10	2	Group, farm visits

NB: Farm visits are undertaken by both farmer trainers and trainees

Topics taught by farmer trainers and rating by farmer trainees

Farmer trainees were asked to list some of the topics on livestock feed resources that they were taught by farmer trainers. This was followed by rating of each topic in terms of its depth, relevance, understanding and ease of use. The rating was on a three point scale, high (H), medium (M), and low (L). Most topics were rated highly on depth except for the case of silage making and herbaceous legumes such as mucuna and lablab. Trainees in Jinja and Mityana were of the opinion that the training on silage making was not covered adequately (Table 16). As for relevance, most topics were considered relevant except silage and hay that were considered to be irrelevant in Mukono. Farmers in Mukono indicated that they have a shorter dry spell hence they do not see the need to conserve fodder while others indicated that due to the small landholdings, they usually do not have surplus. Most topics taught were understood by most trainees, except the use of fodder shrubs in Mukono. More training on fodder shrubs is required.

Table 16. Topics taught and rating of topics across sites

	Jinja				**Mukono**				**Mityana**			
Topics	**Rating**											
	D	**R**	**U**	**E**	**D**	**R**	**U**	**E**	**D**	**R**	**U**	**E**
Hay making	H	H	H	M	M	M	H	M	H	H	H	H
Silage making	M	H	H	H	H	M	H	M	M	H	M	M
Herbaceous legumes (mucuna, lablab)	M	H	H	L	M	M	H	H	H	H	H	H
Types of pastures	H	M	H	H								
Napier establishment	H	H	H	H	H	H	H	H	H	H	H	H
Fodder shrubs (Calliandra, Leuceana))	H	H	H	H	H	H	L	H				
Setaria									H	H	H	M
Panicum									H	H	H	H
Centrocema									H	H	H	M

Note : D-Depth, R-Relevance, U-Understanding , E-Ease of use

Rating H-High, M-Medium, L-Low

Technology adoption by farmer trainees

Adoption of most technologies is fairly low (Table 17). The highest uptake is for napier (Elephant) grass and pasture establishment/improvement with about 50% of the respondents, followed by calliandra (47%). The reasons given for the high uptake of napier are: bulkiness, previous knowledge of the technology (common forage in the area) and the fact that propagation material is easily available (Table 18). Reasons for uptake of calliandra are its high palatability, its ability to increase milk production and butter fat content. It however has very low germination (Table 19). Technologies with very low uptake are silage, hay, leuceana among others (Table 17). Reasons cited for low uptake of hay are lack of storage, availability of fresh forage and lack of hay boxes (Table 19). As for silage, reasons cited for low uptake are lack of molasses and the fact that it is labour intensive. Lack of seed and poor viability are reasons given for the low uptake of leuceana. Reasons given for low adoption of centrocema are: unavailability of seeds, not bulky and the fact that it cannot be intercropped.

Table 17. Technology adoption by farmer trainees

Technology	% of adopters (n=30)
Pasture establishment/improvement	50
Hay	20
Silage making	10
Napier establishment	50
Calliandra	47
Lablab	17
Leuceana	13
Mucuna	33
Setaria	20

Table 18. Reasons for adoption

Reasons	Technology						
	Mucuna	Calliandra	Napier	Setaria	Hay	Lablab	Leuceana
Bulky			✓	✓			
Available in plenty			✓				
Easy to intercrop			✓				
Easy to establish/propagate			✓	✓		✓	
Grows very fast			✓				
Controls soil erosion		✓	✓				✓
Previous knowledge (known by everyone)			✓				
Drought resistant		✓	✓				
Multiple, fuelwood)		✓					✓
Soil fertility improvement		✓					✓
Increases milk quantity and quality	✓	✓		✓		✓	✓
Highly palatable		✓		✓		✓	✓
Improves animals health (shiny skin coat)		✓				✓	✓
Easy to handle/harvest				✓			
Soft				✓			✓
Attractive to animals				✓			✓
A balanced diet	✓					✓	✓
Increases animal appetite							
Increases animal growth rate		✓					✓
Animal gain vigour		✓					
Easy to store					✓		
Increases water intake					✓		
Satisfy animal easily					✓		
Eliminates bloat/parasites					✓		

Table 19. Reasons for low adoption/non adoption

Reasons	Technology						
	Hay	Centrocema	Silage	Leuceana	Sesbania	Lablab	Calliandra
Lack of storage facilities	✓						
The dry season not long (plenty of fresh forage)	✓						
Seeds not available		✓					✓
Not bulky		✓					
It cannot be intercropped with other food crops (entangles)		✓					
Lack of equipment (hay box)	✓						
Materials are expensive			✓				
Materials not easily available (Polythene)			✓				
Labour intensive			✓				
Do not have surplus (land holdings small)			✓				
Lack of seed				✓			
Small land holdings					✓		✓
Poor seeder						✓	
Low germination							✓

Technology dissemination by trainees

Trainees are also disseminating technologies to other farmers "second generation" farmers within their community (Table 20). Of those who have disseminated, about 40% have disseminated to between 1-5 farmers. 6% have passed on the technologies to between 11-20 farmers. There is however one exceptional farmer trainee, Moses Kalogo from Kamuli district, Kasambira village who has trained more than 100 second generation farmers.

Table 20. No. of trainees who have disseminated technologies to other farmers

No. of second generation farmers trained	% of trainees (n=30)
0	15
1-5	40
6-10	23
11-20	6
>100	3

Strengths and weaknesses of farmer trainers

Trainees were asked to list strengths of their trainers. Frequently mentioned strengths were the fact that trainers were hard working, have good communication skills and very committed to their dissemination activities (Table 21). Other qualities include generosity and being exemplary in their work. The two main weaknesses cited were the fact that most trainers do not make follow ups and secondly the fact that some have low income thus making it very difficult for them to effectively undertake dissemination activities (Table 22).

Ranking of desired attributes of a farmer trainer across sites

Desired attributes of a farmer trainer that featured across the three sites are discipline, commitment, good communication skills and being approachable. Other attributes are: good in time management, calm, patient, tolerant and innovative (Table 23).

Why trainees think the farmer trainers' job is attractive

Six out of 8 trainees in Mukono district considered training other farmers to be attractive while in Mityana, all trainees considered the work attractive. Reasons cited are: the fact that the work itself is developmental (improves their status socially and economically), they have an opportunity for receiving training, are a reference point in the community (farmers go to them

whenever they need training on feed technologies), one gains popularity and also because they receive transport refund whenever they are invited for meetings (Table 24).

Table 21. Strengths of farmer trainers in Mukono and Mityana

Strengths	Site	
	Mukono (2)	Mityana (2)
Hardworking	✓✓	✓✓
Good communication skills	✓✓	✓✓
Committed	✓✓	✓
Generous	✓	
Exemplary	✓	
Model farmer	✓	✓
Social	✓✓	
Informed	✓	
Stable family	✓	
Cool temperament/calm		✓
Considerate		✓
Does not discriminate		✓
Good at convincing		✓

Note: The checks show the number of times the attribute was mentioned while the figures in brackets are the number of trainers evaluated.

Table 22. Weaknesses of farmer trainers in Mukono and Mityana

Weaknesses	Site	
	Mukono (2)	Mityana (2)
Poor implementer		✓
No follow up visits	✓✓	✓✓
Low income/lack of resources	✓	✓
Not patient with slow learners	✓	

Note. The checks show the number of times the attribute was mentioned while the figures in brackets are the number of trainers evaluated

Reasons why the trainers task is not attractive

- No salary
- Low turnout of trainees during meetings
- Farmers don't keep time
- Mistrust by trainees (they think farmer trainers do not disclose to trainees the financial benefits they are supposed to receive)
- Non implementation by the trainees discourages trainers

Table 23. Desired attributes of farmer trainers

Desired attributes	Study sites		
	Jinja	Mukono	Mityana
		Ranking	Not ranked
Disciplined	1	10	✓
Honest	3	8	✓
Literate	2		✓
Good in time management	6	7	✓
An implementer	5	5	✓
Impartial	7		
Calm/not hot tempered	8		
Committed	4	2	✓
Tolerant	10		
Patient	9		
Approachable		1	✓
Permanent residence in the area		9	
Sympathetic		15	
Exemplary		3	
Has a voluntarism spirit		6	
Empathetic		11	
Smart		12	
Good home hygiene		14	
Discrete		13	
Good communication skills	✓	4	✓
Should have transport			✓
Has respect for trainees			✓
Innovative			✓

Table 24. Reasons why trainers task is attractive

Reasons	Study sites	
	Mukono	Mityana
Gain knowledge/skills	✓	✓
Reference point	✓	✓
Developmental	✓	✓
Popularity	✓	✓
Transport refund (when invited for meetings)	✓	
Opportunity for receiving training	✓	✓

4.0 CONCLUSIONS AND WAY FORWARD

The informal survey as mentioned in the methodology section was carried out with the main purpose of collecting qualitative data to be used for formulating hypothesis for a more in-depth formal survey. There are however some issues that came out strongly during the discussions that may need immediate attention by the EADD project. They include:

- Lack of training materials (manila paper, markers, sample seeds)
- Lack of certification
- Trainers cover long distances which makes them ineffective
- Lack of a uniform template for record keeping
- Identification of training needs by dissemination facilitators uses the top down approach (farmer trainers are not consulted)

This informal survey has also shown that farmer trainers have great personal qualities that make them good trainers. They however are weak in making follow ups. The reason for this is not clear but it will be looked at in detail during the formal survey. Technology adoption is fairly

low. Although farmer trainees gave reasons for the low uptake, a more in-depth study will be undertaken to find out whether the low uptake is related to the approach, technology characteristics, biophysical conditions, policy issues or to farmer trainees socio-economic circumstances. On dissemination, there are some trainers who have trained very many farmers. What distinguishes them from the rest of the farmer trainers? Is it personal attributes or other socioeconomic characteristics such as wealth, education, age and land size. How about the quality of information that is passed on? Is the quality compromised as the information is passed on from training of trainers, farmer trainers, trainees and second generation farmers? These aspects will be followed up in greater detail with individual farmer trainers and trainees.

Lastly, farmer trainers do incur costs while undertaking their activities. They also in turn receive some financial benefits from sale of seed and providing consultancy services on livestock management. Other non monetary benefits include gaining popularity which may be a springboard to political positions, satisfaction, increased social networks and being kept busy thus making them look young. How do they value social benefits? Are social benefits as important as the financial ones? These issues will be followed up in depth in the formal survey.

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ANNEX I: LIST OF FARMER TRAINERS

FARMER TRAINERS WHO PARTICIPATED IN JINJA DISTRICT, BUWENGE SUBCOUNTY, KAGOMA COUNTY ON 21/9/2010

ID	FARMER TRAINERS NAME	M/F	SUBCOUNTY
1	Waiswa D	M	Bugulumya
2	Bakaki G	M	‘’
3	Mwase M	M	‘’
4	Wakowera Annet	F	‘’
5	Zirintusa S	M	‘’
6	Kanusu M	M	‘’
7	Mukembo S	M	‘’
8	Twinomujuni S	M	‘’
9	Katube G	M	‘’
10	Busoga G	M	‘’
11	Wahe Loy	F	Mafubira
12	Kagawa J	F	‘’
13	Kifebanakolanga F	F	‘’
14	Nabeeta H	F	‘’
15	Dhabangi F	M	‘’
16	Kimalyo R	F	‘’
17	Kabaale N	M	‘’

FARMER TRAINER'S WHO PARTICIAPED IN MUKONO DISTRICT ON 23/9/2010

Trainer ID	Name	Village/Parish
1	Sara Kawere	Nakoba, village, Dundu Parish
2	Madina Nantongo Wamuti	Kasayi, Dundu Parish
3	Nanyonga Getrude	Budugala village, Nyenje

FARMER TRAINERS FROM TUSUBIRA HEIFER PROJECT WHO PARTICIPATED IN MITYANA DISTRICT ON 24/9/2010

ID	NAME	VILLAGE, PARISH
1	Sebayire Vincent	Kibale, Kibale
2	Musoke Moses	Nakyeria, Kitemu
3	Sepriamo Niyontze	Bulera, Bulera
4	Ssentogo John	Mbiro, Namutamba
5	Mukuba Desdanius	Kabungo, Namutamba
6	Nalongo Mukasa	Sangala, Kitemu
7	Erica Matavu	Kabungo, Namutamba
8	Charles Matovu	Kiteredde, Kiteredde
9	Lutaya Irene	Kibale

ANNEX II: LIST OF FARMER TRAINEES

FARMER TRAINEES WHO PARTICIPATED IN JINJA DISTRICT, BUWENGE SUBCOUNTY, KAGOMA COUNTY ON 21/9/2010

TRAINER ID	NAME	M/F	Village, Parish Subcounty
1	Kayiza Musa	M	Namulesa Parish, Mafubira SC, Nakabango village
2	Bunyinza Sara	F	Namulesa Parish, Mafubira SC, Nakabago village
3	Gawule Amina	F	Kainogoga village, Buwekula Parish, Mafubira S/C
4	Musesi Joyce	F	Nawangoma village and parish, Bugulumbya SC, Kamuli
5	Baloda Grace	F	Nawangoma village and parish, Bugulumbya SC, Kamuli
6	Muwaya Kaamu		Bugulumbya village, parish and SC, Kamuli District
7	Zikilabe Frank	M	Bugulumbya village, parish and SC, Kamuli District
8	Tenywa Yeko		Bugulumbya village, parish and SC, Kamuli District
9	Kalogo Moses	M	Kasambira village and Parish, Bugulumba SC, Kamuli district
10	Nabirye Tabitha	F	Lwanda village, Namulesa Parish, Mafibira SC
11	Hasifa Gavamukulya	F	Kainogoga village, Buwekula Parish, Mafubira S/C
12	Bafukuwa Jane	F	Lwanda village, Namulesa Parish, Mafibira

			SC
13	Buri Edith	F	Lwanda village, Namulesa Parish, Mafibira SC
14	Mukibya Ruth	F	Namulesa Parish, Mafubira SC, Nakabago village
15	Mirabu Kunya		Namulesa Parish, Mafubira SC, Nakabago village
16	Eayima Musa	M	Lwanda village, Namulesa Parish, Mafibira SC
17	Kalulu Fuuza		Namulesa Parish, Mafubira SC, Nakabago village

LIST OF FARMER TRAINEES IN MUKONO DISTRICT WHO PARTICIPATED ON 23/9/2010

ID	Farmers name	Village
1	Namitala Harriet	Namulaba, Ddundu
2	Nanyanzi Teopista	Lukoligo, Ddundu
3	Nakafeero Alaisa	Nama, Mpoma
4	Salima Mugalu	Nalya, Mpoma
5	Nambi Janet	Nama I, Mpona
6	Semwogere Moses	Nama II, Mpoma
7	Kyobe Samuel	Nama II, Mpoma
8	Ssali Musiini	Nama I, Mpona

LIST OF FARMER TRAINEES IN MITYANA DISTRICT WHO PARTICIPATED ON 23/9/2010

TRAINEE ID	NAME	VILLAGE, PARISH
1	Kyambade Emmanuel	Nakuerira, Kitemu
2	Majanja Paul	Sangala, Kitemu
3	Nabakooza Alice	Sangala, Kitemu
4	Kagumaho Alex	Sangala, Kitemu
5	Buwembo Sarah	Sangala, Kitemu
6	Katerega Isiah	Bulwanya, Kibale
7	Florence Nakate	Sangala, Kitemu