

The Mud on Their Legs – Farmer to Farmer Videos in Uganda

Jeffery Bentley, Paul Van Mele, and Grace Musimami
Agro-Insight

MEAS Case Study # 3, July 2013

Introduction

Beginning in 2003, Paul Van Mele and colleagues made eleven farmer-to-farmer learning videos in Bangladesh and West Africa about growing rice, from seed to post-harvest. These “Rice Advice” videos were then dubbed into five major languages of Uganda (plus English, Swahili and French) and copied onto a DVD. In 2011 some 7,500 copies of the DVD were distributed to organizations in Uganda. In November 2012, we visited the organizations and some of the farmers who had seen the videos to find out what happened. We wanted to know if the videos were distributed, if farmers watched them, and what Ugandan farmers and white-collar agriculturists thought of the videos. For example, did they find the information useful? Did they like seeing farmers from other countries speaking on camera? How did their lives change, if at all, after watching the videos?

A Brief History of the 11 Rice Advice Videos

In 2003, Paul Van Mele at CABI and Josephine Rodgers at Countrywise Communication trained agricultural service providers in Bangladesh to make videos highlighting the results of participatory technology generation. Researchers from the Rural Development Academy (RDA) and smallholders from the nearby village of Maria, Amrul, Bogra District, had taught one another a lot about how to produce healthy rice seed, enough to make four videos (Van Mele et al., 2005b). Table 1 shows the main topics of the videos. At first, these videos had soundtracks in English and Bengali only.

In 2005, at the Africa Rice Center in Benin, Van Mele was challenged to think of a way to get high quality extension material to millions of African farmers as quickly as possible. He convinced reluctant colleagues and national partners that dubbing the Bangladeshi videos into African languages would be faster and cheaper than making videos anew (Van Mele et al., 2011).

Table 1. Bangladesh seed health videos, 2003.

	<i>Brief description of technology</i>	<i>Origin of knowledge and technology</i>
Seed sorting	Manually remove diseased seed.	Scientific principles; technology introduced by outsiders
Seed flotation	Add salt or urea to a bucket of water until an egg floats; drop rice seed in the water and remove the bad ones, which float to the surface.	Small modification of existing practice
Drying	Make a bamboo table or bench for drying rice; it can be quickly moved indoors in case of rain.	Tables made through participatory technology development
Storage	Paint an earthen pot; fill it with rice seed and do not leave a dead air space; add leaves of neem or bishkatali and seal the pot. Store pot above the ground.	Scientific and local knowledge and practice

Source: Van Mele et al., 2005a.

Again with Countrywise, Van Mele and colleagues began filming new videos in Benin on rice parboiling and production of quality rice (see Table 2). These videos were available in English and French and were soon dubbed into dozens of African languages. There were now rice videos on seed and on post-harvest, but nothing on actually growing the crop.

Table 2. Benin rice quality videos, 2005.

	<i>Brief description of technology</i>	<i>Origin of knowledge and technology</i>
Rice par-boiling	Poke holes in the bottom of a large metal pot and put it on top of a large aluminum pot. Soak paddy rice and put it in the upper pot where it can be precooked with steam without the paddy touching the water.	Scientific knowledge and best local practices
Rice quality	Avoid mixing rice varieties. Harvest the rice crop on time. Avoid mixing stones while threshing -- e.g., by threshing on tarps. Proper drying -- e.g., not on the road -- until the rice breaks neatly between the teeth.	Scientific and local knowledge and practice

Source: Adapted from Zossou et al., 2009.

In 2008, Jeff Bentley evaluated a project led by Van Mele in several West African countries, including Ghana and Mali. The project was based on an idea called participatory learning and action research (PLAR), which was much like farmer field schools (FFS) but oriented more toward developing technology with farmers. One and two years after the project ended, the villagers were still using innovations they had perfected with the agronomists, and Van Mele and colleagues decided to go to Mali and film the farmer-innovators (Bentley et al., 2010; Van Mele et al., 2011). The resulting videos on rice growing filled part of the gap between producing seed and harvest (Table 3).

In 2011, all eleven of the aforementioned videos from Bangladesh and West Africa were translated into Swahili and five Ugandan languages: three Bantu tongues (Luganda, Lugbara and Runyakitara) and two completely different languages of the Nilo-Saharan family (Teso and Luo).

Although a video can be translated for about a tenth of the cost of making a new one, translation is still an exacting task. All of the videos have a script, in English and French, which makes them easier to translate.

Table 3. Rice videos from Mali and Burkina Faso (land preparation), 2008.

	<i>Brief description of technology</i>	<i>Origin of knowledge and technology</i>
Land preparation	Plow field twice with hoes, tractor or ox plow. Soak the soil (pre-irrigate) and then level it. Apply organic and mineral fertilizer. Planting all fields at the same time makes it easier to manage birds. A well-leveled lowland rice field improves weeding, irrigation, fertilization: everything.	Best agronomic and farmer practices
Seedbed	Plant when seedlings are 2 weeks old. Make the seedbed near the field, near water, not in the shade. A seedbed 1 X 10 meters is easy to manage. Store seed in airtight container and pre-germinate it. Don't plant too densely -- only 2 kg seed per 10 m ² . Prepare soil well, add fertilizer, keep seedbed moist.	PLAR (farmers adapting agronomists' advice)
Trans-planting	Transplant when seedlings are 2 weeks old; if older, they give fewer tillers. Water nursery before uprooting. Plant so that the white base of the plant is at ground level, with no green part of the plant under-ground. Plant 1-3 seedlings per hill. Transplant in lines with seedlings 20 cm apart.	PLAR
Weed management	Dig out and burn perennial weeds. All villagers should control weeds to avoid growing weed seeds, which can come in irrigation water or from field edges. Use healthy, pre-germinated rice seed. Transplant rice in lines to make manual or mechanical weeding easier. Keep water on the field. Apply fertilizer when there are no weeds.	PLAR
Soil fertility	Nutrients are NPK, but N is most vital for plant growth. Organic fertilizer improves soil structure, but mineral fertilizer is richer in nutrients. Urea is only N, but colored fertilizers have N, P and K. N is the most soluble nutrient and can be easily lost. Apply urea 3 times, but apply NPK in soil early in the season. Plant grain legumes to improve soil.	PLAR

In Uganda, the local language translations were done by the National Crops Resources Research Institute (NaCRRI) with help from the Ugandan Broadcasting Corporation. The translations were done in writing by an agronomist or another educated person with agricultural experience who was a native speaker of the target language.

The voice-overs were then done from the local language script by a professional broadcaster, often a radio announcer,

who was used to working in the target language. Countrywise painstakingly checked all of the audio tracts against the script.

A grant from Kilimo Trust made it possible to print 20,000 copies of the videos, and in 2011, Grace Musimami, a Ugandan journalist from Farmers Media, distributed 7,500 copies in Uganda (see overview below). The other copies went to Kenya, Tanzania, Rwanda and Burundi. All 11 videos

and their eight language tracks fit on a single DVD. Each DVD was in its own case, with a short questionnaire, in English, French and Swahili, requesting feedback. Of the 20,000 copies, not one questionnaire was returned. **We started this study wondering what had happened to the DVDs, and how had the people received them?**

<i>Organizations in Uganda that received rice videos in Uganda</i>	<i>Copies received</i>
NAADS (National Agricultural Advisory Services)	1000
WFP (World Food Program)	700
FAO	200
MAAIF (Ministry of Agriculture, Animal Industry and Fisheries)	400
NARO/NaCRRI	400
JICA (Japanese International Cooperation Agency)	400
TRIAS Uganda (a Belgian NGO)	80
Upland Rice Millers	200
Tilda Uganda limited	200
Africa 2000 network	400
World Vision	400
Sasakawa- Global 2000	1000
Centenary Bank	20
UNADA (National Agro-input Dealers Association)	400
EAGC (Eastern Africa Grain Council)	400
UNFF (Uganda National Farmers Federation)	1000
BROSDI (Busoga Rural Development Initiative)	200
Nabweru Telecentre	100
TOTAL	7,500

We had some inkling of what to expect from an earlier study in Nigeria, where the same videos had also been translated into the main languages (Igbo, Hausa and Yoruba). Nigerian white-collar agriculturists complained that the videos should have been made in their own country, though the farmers didn't care about that. But they did notice that the Malian videos were filmed with lowland rice; Nigerians who grew upland rice wanted videos on upland rice, not lowland (Bentley and Van Mele, 2011). We expected something similar in Uganda. The results, however, were more complex, and more interesting.

Questions for Uganda

In Uganda, we visited 15 of the 18 organizations receiving videos over a three week period to learn how they

distributed and used the videos. During the interviews¹ we discussed the following questions with each:

- How did extension service providers in East Africa perceive the videos from Asia and West Africa? Did they show the videos, and how often and to whom? What was their opinion of the videos and of ideas for future media-enhanced extension?
- Did organizations distribute the videos to other organizations? If so, what was their distribution strategy -- how many copies to whom?
- What are the recommendations of those who disseminated the videos to improve future distribution and use of agricultural training videos? How can a feedback mechanism be fitted onto videos in the future?
- The research team invited constructive criticism of the videos. For instance, what problems did the service providers experience with them? What are their recommendations for improving the videos and service delivery? What positive and negative feedback did they receive from farmers about the fact that farmers and not technical people were presenting in the videos, and that these farmers were from another country?

In eight communities, we talked with farmers¹ about:

- What did they learn from the videos?
- Did farmers change their behavior after seeing the videos, and if so, how?
- To what extent and how have farmers shared the information?
- How effective have the videos been in reaching women and youth?
- What did farmers think of the videos -- e.g., were they objectionable in any way?
- How can training videos be improved in the future?
- What suggestions did farmers have for enhancing community access to agricultural training videos?

The Results from Uganda

In general, the field visits surpassed our expectations. We thought that the videos were really effective only if combined with a more holistic extension program -- e.g., if an extensionist went to a village and "facilitated" the videos by showing them and fielding farmers' questions, discussing the video content, and following up with later demonstrations and encouragement. We were wrong. As the following case shows, farmers learned to use the innovations and improved their rice yields just by sitting down and watching the videos in a warehouse. DVDs had been given to two millers in

¹ The summaries of the interviews with the organizations and of the visits to the farmers are available in Appendix 1 and 2.

Uganda (Tilda and Upland Rice). We were unable to interview anyone at Tilda.

Upland Rice Millers

“That’s new,” Grace said as we drove onto the lot of Upland Rice Millers in the industrial town of Jinja. A large, brick warehouse now dwarfed the actual mill. Paddy rice was drying on tarps in front of the building while young men scooped it up into bags to store it.

Jeff noticed the USAID sign in front and assumed that the Americans had paid for the facility, but he was only 40 percent right because Upland had paid 60 percent of the costs.



Drying and bagging rice at the big, new warehouse. For rice mills in Uganda, just getting enough rice is the biggest bottleneck.



Each pile of rice belongs to a different owner. Rice is a seller’s market, and farmers like to keep their own rice apart from others’.

The mill manager, Ayub Asinkataba, led us through the warehouse. It was big enough to host a football game, including spectators, and it was almost full of bags of rice. A closer look revealed that the rice bags were not new factory sacks but the worn, used bags provided by the farmers themselves.

Although the bags were arranged in small, neat piles, they were not stacked in the regular geometrical pattern of a warehouse but were placed a ton here, two tons there and a couple of hundred kilos over there. Each bag was labeled with the name of the farmer who owned it, and each pile of bags belonged to a different farmer.

In much of the world, mills buy paddy outright from the farmers, who never see their product again. Then the mill owner sells the milled rice. Perhaps 40 percent of the rice in Uganda is milled that way, but about a fourth of the rice in the country is done as “toll milling” as we were seeing here (DIMAT, 2012). A toll miller simply mills the rice, for a fee, and returns the polished rice to the farmer.

“We work on an almost just-in-time basis,” Ayub explained, meaning that they try to have no more than a few days’ worth of unmilled paddy on hand at any one time. He cast an eye over the stacks of rice nearly covering the cavernous floor. “We have 350 tons here. We can mill it in a week and a half.”

The rice mill is the brain child of Phillip Idro, the former ambassador from Uganda to China. When the ambassador returned from his nine years in China, he sent home rice milling equipment to clean, hull, sort, polish and bag the rice in neat plastic gunny sacks, branded with the Uplands name and logo, but with the farmer’s initials again written with a marker pen on the new bag. It took the ambassador six months, and he looked at 40 mills until he found the right one, a mill that gets out all the stones and sorts the grains nicely. Because the mill is only medium-sized, it is fairly easy to start and stop, and to run small batches from individual farmers.

The small batches cost the mill more time, but the farmers really prefer getting their own rice back, which builds their trust in the mill and ultimately in the market, too. Toll milling has some advantages for the miller, too. It lowers capital costs because the miller does not have to pay cash for the rice, and the miller earns a fee for milling. Toll milling also lowers risk and storage costs because the farmers take their rice away at the end of the day.



Ayub Asinkataba is eager to build a relationship with farmers who bring rice to the mill.

Grain dealers call Upland Rice Millers on their cell phones to see when rice is available. Then they come to buy the bagged rice directly from the farmers at the mill, where the rice is arranged in stacks for each dealer. An accountant keeps a careful record of which dealer buys from which farmer.

Just to keep the buyers honest, Upland has installed security cameras in the selling room to keep an eye on the dealers who may be tempted to help themselves to a bag from someone else's pile.

"One sack of rice is the profit for the whole season for some smallholders," Ayub Asinkataba explained, adding that Upland wants to build a relationship with each farmer.

Ambassador Idro explained that rice is in such demand in Uganda that some mills stand empty for five months a year. The bottleneck is getting enough rice to the mill. Rice is a sellers' market, so it makes sense to cultivate relationships with farmers.

As part of building farmers' trust, Upland has a dormitory room where farmers can sleep while they wait for their rice to be milled, and Upland gives them free meals while they wait. We are not sure whether the other toll millers are as hospitable to farmers as this, but since paddy rice is the mills' scarcest resource, it is in the millers' best interest to treat the farmers with enough courtesy to keep them coming back.

Upland Rice Millers is a big operation, the second largest rice mill in Uganda. The yard is piled high with cinder blocks for a new mill that Upland is going to add to replace the aging, seven-year-old Chinese machinery.

When farmers get good prices and friendly treatment, they respond by telling their friends on their cell phones and by growing more rice. In 10 years, Uganda has doubled its rice production. Farmers who used to bring two sacks of rice to Upland now bring in six.

"The Rice Advice videos helped make this possible," Ayub declared, because the videos help the farmers produce more rice and better rice. "I used to work in broadcasting in London, and I know videos. With these videos, I liked the approach, the story board, the timing, everything. They were professionally done."

When the farmers come to mill their rice, Upland Rice Millers treats them to a "compulsory" viewing of all 11 videos. "It really helps that it's multilingual. There are 55 languages in Uganda, but everyone can understand at least one of the five Ugandan languages on the DVD," Ayub said.

As we sat with Ayub and his colleagues, Peter and David, it was clear that they had seen the videos themselves quite a few times. They seemed to know every detail about them. They even mentioned that they learned that frogs can get into the rice seedbeds.

With funding from USAID, Upland Rice Millers was able to hire six farmer-extension agents. Now the funding has ended, but Upland is keeping the extensionists on anyway. The extensionists use the Rice Advice videos to visit communities and show them how to grow more rice.

CITARD, the Rice Farmers of Nampologoma

This group of farmers watched the videos alone, with no outside support, and quickly learned to improve their rice production.

In 2011, a young rice farmer named Ahmed, from a village in Uganda, wrote an email to Grace Musimami, asking for the Rice Advice videos he had seen advertised in the *Farmers' Media* newspaper. Ahmed's family, neighbors and about 1000 other villagers in the traditional lowland rice growing area of Nampologoma, Butaleja District, are organized in an association called Communication and Information Technology for Agriculture and Rural Development (CITARD). This was Grace's first visit to the group. The farmers themselves had asked for the videos and had watched them alone, without an outside extension agent. Their extension agent is Ibrahim Kamy, an educated community member hired by CITARD.

The association seems to be a financial success. They bought themselves a medium-sized rice mill and, although we met in the welcome shade of a mango tree rather than in a meeting room, a few community members arrived in used cars. Rice is definitely making a difference in the livelihoods of African smallholders.

This group is sophisticated in many ways. For example, they know that marketing is the key. They know that their rice is almost as good as the Pakistani rice that sells for over twice the price in the supermarket, because the imported rice is nicely packaged and labeled. The group wants to learn how to sell to the supermarkets in Kampala. The farmers surprised us by saying that the Rice Advice videos "have strengthened our association. We were able to get them and tell the farmers, 'See, the association can get you videos like this. This is one advantage of having an association.'"



In the video, farmers learned to level their land, control weeds, manage water and apply fertilizer, and to allow all the rice to ripen at the same time.

And although not all of the members have seen the videos, more than 300 people have, including the local leaders and their close associates.



They also learned to use rice straw as a mulch, and to work it back into the soil instead of burning it.

We wanted to know what the women learned from the videos. One elder, Miriam Namalwa, stood to explain that the women learned to select seed, how to dry the rice after harvesting it and how to prepare ground for laying out a nursery bed. They also learned to prepare the rice seeds, soaking them and putting them on a seedbed. Later we would see that selecting and caring for seed was what farmers learned most frequently from the videos (see Appendix 2).

Margaret Kigenyi said they learned that she should prepare the land twice. Then she goes back and prepares good fertilizer for the nursery bed. Then she prepares the plot for transplanting. It is 30 days from when she prepares the nursery until transplanting. About half of the groups we talked to later would also mention these ideas.

The men learned about mulching with their rice straw instead of burning it, leveling the fields and transplanting in lines (also mentioned by about half the other groups). They have started putting the technologies into practice.

One elder woman said she doubled her yields.

Smoke still dots the horizon as some people burn their rice straw, but others have spread the straw out to plow it into the soil. And we see people leveling their fields “to get water to every corner of the field.”

It’s an extraordinary change in one year and the type you would expect to see after two years of intensive extension effort, but this has happened *just because some farmers watched a video.*

And near the end of our visit, we asked what they think of the videos being made in foreign countries. We ask the question in a slightly leading way, as if the videos should be made in Uganda. As we would see later, all the groups like seeing foreign farmers.

One man responded hesitantly that they would like videos to be made in Uganda, but soon men and women both began to say, “No, we like watching videos from other communities.”

It turns out that the farmers like getting fresh ideas. Farmers are capable of looking through a set of videos and discarding the ideas that don’t work. The people casually mentioned some of the ideas from the videos that they didn’t find convincing. For instance, sorting seed one by one is too tedious, and they don’t have pots for storing seed.

This is not to say that the viewers simply discard unfamiliar ideas. They don’t parboil rice in Uganda, and when the villagers saw the women in Benin parboiling rice in the video, the Ugandans’ curiosity was piqued. They told us they wanted to learn more about it, because parboiling seemed like a way to improve quality.

Alpha Mwaagale was sitting quietly, but his neighbors began to praise him. They said he was very good about getting out his TV set and putting it outside, in front of his house, and when people passed by they would say, “Hey, there’s a Nigerian video,” and Alpha would invite them to stop and watch the Rice Advice videos.

The villagers were incredulous that the government took several months to approve the videos, when the ideas were so useful.

And they ended on an optimistic note. They invited us to come back in a while and film some of their innovations to share with the farmers in Benin and other countries.

At the meeting with CITARD, Ahmed handed us a paper he had written of his own accord, discussing the Rice Advice videos (see Appendix 3). We were flabbergasted. We’ve never had a farmer give us a paper he had written, much less one so nicely written and illustrated. In the paper Ahmed says that the farmers of Nampologoma have mainly adopted transplanting in lines, which raised yields from 700 or 800 kg per acre to 1000 kg. It made it easier to weed and saved time. They also adopted field leveling and floating rice seed to improve seed. These were some of the more common techniques adopted in Uganda.

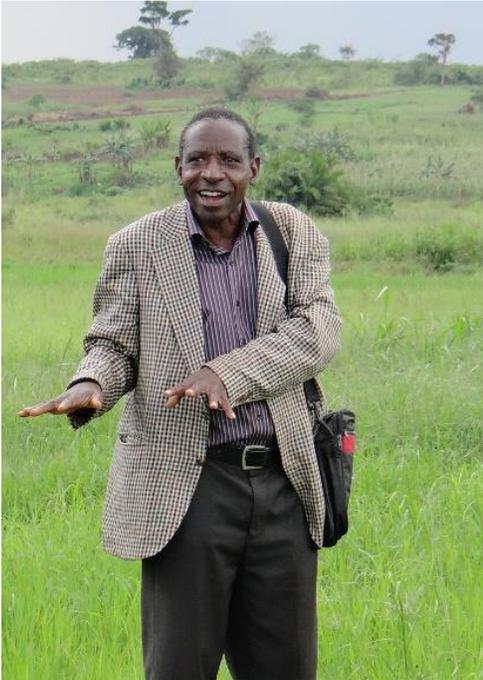
Uganda Broadcasting Corporation (UBC)

The farmers and millers weren’t the only ones who liked the Rice Advice videos. At least one professional broadcaster thought they were good enough to show on national TV.

Grace Kyomugisha, at UBC, showed the Rice Advice videos on national TV, on the “Farmers’ Basket” show. She showed the videos once in Luganda, and in November 2012 she showed them in English. She took the episodes on land preparation, rice transplanting, soil and water management, and seedbeds and spliced them together into a single 30-minute version. Kyomugisha had done the translations into three of the languages. As a professional broadcaster, she obviously felt that the films were of a high enough quality for national TV. After seeing the Luganda version, one farmer called the studio and asked for a copy of the videos.

Namulonge Horticultural Farmers' Association

As we saw in Nampologoma, the farmers liked seeing farmers in other countries. In this next case study, the farmers in Namulonge told us that they found the farmers on videos convincing because they are real farmers. Perhaps a farmer on video is more convincing than a farmer in the flesh.



Christopher Nsamba knew that the Bangladeshis and Malians in the videos were real farmers, not actors.

An experienced Ugandan farmer, Christopher Nsamba, stood on a narrow footpath winding around a rice field, neatly planted in lines on level soil. Mr. Nsamba talked about watching the rice videos from Bangladesh and West Africa.

“When we saw the mud on those people’s hands and on their legs, we knew they were real farmers, even before they started speaking. And when we saw their chickens and their dogs—they are the same animals we have here. So we knew that if those farmers could do it [grow better rice], we could, too.”

Mr. Nsamba was with his daughter Sylvia and two other farmers, John and Swaib, all members of the Namulonge Vegetable Farmers’ Association. Several years ago in Ghana, extension agents told Bentley that they had had the hardest time convincing farmers to plant rice in lines (Bentley et al., 2010). Some of the Ghanaian extensionists became visibly angry talking about how farmers insisted on planting rice “haphazardly.”

Yet several groups of farmers in Uganda had adopted line planting and field leveling because they had seen farmers from Mali discussing it on a DVD. Transplanting rice in lines is

easy enough to do if you already know how to transplant rice (as we saw at Nampologoma). But this group had done something more difficult. They had adopted the practice of transplanting rice after watching the videos.

“Well, we knew about transplanting all along because we transplant our vegetables, but we didn’t know you could transplant rice.” So the video inspired them to take a technique they knew from vegetables and apply it to rice.

Then they went one step further. After watching the videos, they also took a rice technique and applied it to vegetables. Later, in her father’s home, Sylvia brought out a small clay pot filled with bags of vegetable seed. The Rice Advice videos showed people how to store rice seed in pots, not to put vegetable seed in ceramic vessels -- that was an innovation. These farmers in Namulonge had also begun to hand sort their vegetable seed and to float out the bad ones, another rice idea that they had adapted for their vegetables.



By watching the videos, the Namulonge farmers learned to transplant rice and to plant in lines.

As we would see in a few other villages, the videos also helped motivate the village youth to get into farming as a business. The people of Namulonge were impressed with the video from Mali, which said that young people who had stayed on the farm were doing better than those who went to the city. We met Mr. Nsamba’s son, Gasta, who is studying business administration at university, living at home and helping with the vegetable growing in his spare time.

Namulonge is near the NaCRRI rice experimental station, and sometimes the farmers do varietal trials for NaCRRI. They go to the station and get a little training and seed, which they try on their own, and the researchers visit them later to collect data.

This contact with researchers makes the Namulonge farmers unusual, but even so, these farmers don’t get regular visits from extension. They received the DVD at an open day at the station, and Sylvia took her TV set to several meetings of local farmers and showed them the videos in the Luganda soundtrack. We saw this several other times; farmers who are members of associations sacrifice their own time to help their fellow members watch the videos.

The visit from Jeff and Grace was the first time anyone had come around to talk to them about the videos since they watched them.



Gasta Nsamba, who studies business at the university, realizes that farming is also a viable business.

Swaib said that “before, I used to think that farming was like being in prison, just digging holes, but after watching the videos (and seeing smallholders in other countries) I am proud to be a farmer.”

There are problems, too. The villagers want videos on pests and diseases, and on other crops, especially vegetables. They want videos on better bird scaring techniques, although they have made one more innovation on their own. They set up a hut in the center of the field and run strings to the field corners and edges. When birds come, the person jangles the strings, hung with tin cans with stones in them. “When the birds hear that sound, chaka chaka chaka cha, they fly away!” With this technique a person can scare birds from two acres instead of just one, but the farmers of Namulonge want to test the method more before recommending it to others, and they want to learn other bird scaring techniques as well.

There is one more problem. After adopting rice cultivation in 2008 at the encouragement of NaCRRI, the villagers are now tempted to abandon it because they have to travel by car for an hour to another town to have the rice milled. Apparently there are mills (like Upland Rice) without enough rice, but there are also rice farmers with no easy access to mills.

And what frightens the people of Namulonge most of all is the threat of land grab. “Outsiders with influence could come in and take the land over, and throw us off.”

The Quiet Offices

Quite a lot of this study was done by interviewing people in offices in Kampala. In contrast to the rich experiences in the field, most of the city folks had little to say.

At the offices in Kampala we met a lot of charming, polite, well-spoken people but found out that they knew little about what happened with the videos they distributed. Many offices gave the videos away opportunistically -- e.g., as freebies in stalls at exhibitions or to other organizations. When the agencies gave the DVDs to their own base constituencies, the organizations kept no records of who got the videos or how they were used. However, to their credit, the office people had watched the videos and could discuss the content (more on that later).

Grace and Jeff were stunned by this tepid response. Grace had foreseen that he needed to get buy-in from the organizations to distribute the videos. He avoided the temptation to simply dump boxes of DVDs with each organization. Using his own contacts, plus others from Agro-Insight and Countrywise, Grace visited each organization to ask them to order the DVDs. Each organization ordered a specific number of DVDs, which we hoped had stimulated the organizations to think about whom they would give the videos to.

The organizations kept their word and distributed the videos, but most did not go the second mile and do follow-up. We propose three reasons why:

1. The leaders of organizations are not in the field. They have a solid administrative load dealing with donors and supervisors, coordinating reports from field staff and cash flows. Most of the time they rely on field supervisors to tell them what is going on in the field.
2. The videos were outside of the organizations’ feedback loops. There was no formal mechanism for relaying experiences from the field to the top office.
3. The videos were an extra, not part of a project. Most organizations work in some kind of project mode, with funding for specific jobs. Many organizations do make an honest effort to account for project money and activities, but a free box of DVDs demands less of their attention, even if the results in the field are phenomenal.

National Agricultural Advisory Services (NAADS) in Fort Portal

In Fort Portal on 12 November, we had a clear example of how the videos are better than we expected, but that we are falling down on the distribution.

Farmers are the videos’ audience, but the extension agents and the agencies are the gatekeepers. In the past we have assumed that if we just put the videos into the hands of the

agencies, the DVDs would reach their extension agents. Here we see that that isn't the case.

We met Grace Kazigati, the district NAADS officer, who told us that she got one video from Grace Musimami and one from NAADS. That means that NAADS gave her one DVD for an entire district (average populations of districts in Uganda are 100-200,000).

Fortunately, Grace Musimami had given Grace Kazigati one other copy as well, which she loaned to Silva, a grass-roots extensionist, who showed it to two groups of farmers. When we talked to one of those groups of farmers, in the village of Kakoga, in the shade of a tree, they mentioned a couple of problems:

1. Even though Silva arranged for the use of a hall in the village and showed the video to 150 people, many more farmers had still not seen it. Few of the youth saw it.
2. Silva's DVD player skips the DVD's main menu and goes right into the videos, in English. He didn't notice that the DVD also came with a sound track in Runyakitara. So he showed the video in English and translated it. (Fortunately, only one other organization mentioned that their DVD player launched straight into the videos in English, without showing the language menu. This may be a problem with really cheap DVD players).

Even though the farmers saw the videos in English, with live translation, they learned many of the key points, as three respected elders took turns talking.

One woman also spoke, showing that the women had learned similar things.

Because they had watched the videos only a couple of weeks ago, we did not know what they would later adopt, but one man had made a seedbed and used the seedlings to fill in gaps in his rice field.

Their only complaint was that the videos were made for lowland rice, and they have upland rice.

When they watched the videos, they were so interested in them that they kept pausing the DVD to ask questions and discuss it. This was one of the few groups that watched the videos with facilitation from an extension agent.

An input dealer affiliated with the Uganda National Agro-input Dealers Association (UNADA)

Like toll rice mills, input dealers will ultimately profit if the farmers thrive as well. Seed and fertilizer shops may be a sensible outlet for getting ICT to farmers.

Igaduve Eria, an agro-input dealer in Mukono, got 100 videos from UNADA and has only seven left. He gives them to farmers when they come into his shop. He had no problem accessing the Luganda sound track. He would have liked more information on fertilizer, not just NPK but micronutrients

such as zinc. That is a fair criticism, indicating that he watched the videos carefully and that he has a wider range of fertilizers for sale. The video on soil fertility does talk about NPK but not micronutrients.



Igaduve Eria gives Rice Advice DVDs to farmers who buy rice seed.

Mr. Eria got 100 videos because he has five small shops, so he sent a few to each one. He gave the videos to people when they came in and bought rice seed or expressed an interest in growing rice.

National Agricultural Advisory Services (NAADS) in Mukono

Like the Namulonge vegetable farmers, some farmers in Mukono collaborate with NaCRRRI and JICA (Japanese International Cooperation Agency) to test new varieties. Recalling the NAADS experience in Fort Portal, extensionists in Mukono claim not to have received any DVDs at all. However, we did meet an extension agent with lots of insight on showing videos, and some farmers who learned some of the rice advice just by talking with their neighbors and household members who had seen the videos.

Experience with ICTs. One of the NAADS extensionists in Mukono is Christopher Wari, who is deeply involved with radio and videos. He has a half-hour radio show every Sunday evening on Kampala radio. Three weeks are prerecorded and one is live so he can get comments from the audience. He gives out his cell phone number while on the air. While we were with him, a farmer called to ask for advice about using composted manure.

Mr. Wari has shown videos and films to farmers for years. He had an old video on banana bacterial wilt and the earlier rice seed health videos from Bangladesh, which he would show on a big screen on village football fields. This was several years ago. First Mr. Wari would go to the village and set up posters. Then he would stroll around chatting with people and shooting impromptu videos. At six he would start to play "interesting music" and then at dusk would play shots of the village he had taken earlier that day. Then he would start to talk to the people about what they needed; they often said things like "This is a bad place to live because there is not enough food." Mr. Wari would then say he was going to show

them a video that addressed that problem. After he showed the videos, he would answer questions with a microphone. And the questions, he stressed, are important -- they tell you what the topics are for your next media production or extension talks.

Mr. Wari showed videos until his big screen wore out, then he carried a TV set from village to village until that broke down. Now he has no equipment to show videos and has stopped doing it.

Christopher Wari has been at this game for a long time. In the 1980s he did his thesis at Makerere University on film extension in communities. He also works at the CABI plant clinics and wants more videos to show at the plant clinics.

The enterprising Mr. Wari also owns a *kibanda*, a rural video hall, where he shows football games and commercial videos for a small fee. "Why not?" he asks -- there is nothing illegal or immoral about showing sports and movies on TV. We had often thought that *kibandas* would be a good place to show the Rice Advice videos, but Mr. Wari has tried it and says it is not very effective. Most of the people who come are the youth and a lot of non-farmers. They lose interest quickly, and the hard-working farmers are at home or in the field. (The authors don't agree entirely. We have other examples that show that youth are interested in the videos. But it will take a little practice to learn the best way to show learning videos in a village video hall.)



A *kibanda*, or village video hall, may be better at attracting kids and youth than at sharing information with farmers.

Farmers share rice advice with other farmers. In January 2012 some researchers from JICA and NaCRRI in Namulonge came to Mukono, and Mr. Wari helped them to show some of the Rice Advice videos to 36 farmers in the village of Mpunde. The daylong event was richly facilitated, and at the end each farmer got one precious kilo of NERICA 4 rice seed to multiply.

Though we weren't able to talk to anyone who had seen the videos, we did talk to three people who had talked to others, and we learned that some information was spreading.

Edith Nakiry Salamula didn't see the videos either, but her husband did, and they grew out the one kilo of Nerica seed. Edith's husband explained the videos to her and she proudly showed us some of the 30 kg of NERICA 4 seed that they produced from their 1 kg. She wants "everyone in the world to see the videos," and like many other farmers in Uganda, she wants new videos on bird scaring.

Joseph Okwole, a community facilitator, missed the videos, but he talked to friends who had seen the videos, and then he bought rice seed on his own and planted it. He transplanted in lines, which is a big change for someone who didn't even watch the videos.



Hope for the future. Edith Nakiry with one of her daughters, some of her grandchildren and some of the rice seed she grew.



Joseph Okwole (rt) shows extensionist Christopher Wari that he transplanted rice in lines after talking to farmers who watched the Rice Advice videos.

Farmers in Barr, Lira

In the village of Barr, Lira District, in the Luo country of northeastern Uganda, we met another farmers' group which, like the ones in Nampologoma, had received a copy of the Rice Advice videos and made good use of them. In 2011, group member Morris Engin read about the videos (in Farmers' Media, the monthly newspaper that Grace Musimami edits). Morris phoned Grace and asked for a copy, which he picked up from Grace in Kampala.



Successful farmers in Barr have cared for the buildings and drying floor they received as part of an irrigation scheme. They also taught themselves more about rice growing by watching the videos.

Many people in the cooperative are now making money from rice. Mr. John, the warehouse keeper for the cooperative, was one of the last to sell his rice.

"He still has 22 bags, worth 2.2 million shillings (\$9,000)," Morris said, while John looked on with a pleased look on his face.

Thanks to the money they make from rice, these farmers now feel respected in town, and the banks are happy to receive them to talk about loans. Money can buy education, and Morris now has a son studying at the Christian University in Mukono. The youth in the village were quick to notice the profits from rice, and many have stayed in the village to be rice farmers because the money allows them to buy motorcycles and other things that interest them.

All of this started in the year 2000 with a government-sponsored irrigation scheme. Before that, the people in Barr grew little rice.

The scheme was designed for 700 people with 1-hectare plots. It was so successful that eventually 3000 people joined the farmers' co-op and planted rice in other lowland areas nearby.

When the rice videos appeared in 2011, people watched them eagerly. Morris showed the videos every Sunday in the rice storeroom, and he took the DVD around to other villages to show it. Eventually 500 people saw the videos, and Morris was able to get copies from Sasakawa and from Upland Rice Millers.

In a meeting with us, the men and women explained in detail what they had learned. After watching the video they began planting rice in lines. They had only started using fertilizer in 2010, and after seeing the videos the next year, they began using more fertilizer and transplanting more rice, which previously they had not done consistently. Transplanting in lines is one of the more common techniques that farmers adopted after watching the videos (Annex 2).

The men and women said similar things, but there was one difference that we had seen in almost every village -- the men spoke in English, even the old men, and the women spoke in the local language, Luo in this case, even the young ones. Morris translated for us. Translating videos into local languages is even more important for reaching women than for reaching men. Because girls have often been discouraged from attending school, local language makes video more socially inclusive.

Adopting the techniques in the videos nearly doubled rice yields. Where growers had been getting 10 bags they were getting 16 or 17 now. Neighbors shared the ideas with others who had not seen the videos, so that the neighbors would be able to grow more rice, too, and not feel envious. And even though everyone is more prosperous now, "We need to show the videos again, to everyone," one woman explained.

James Tinka in Masindi

In Masindi, the Uganda National Farmers' Federation (UNFF) offered to find us a group of farmers who had seen the videos. However, the field visit showed that UNFF did not show the videos to farmers. As we had seen several times

earlier, the formal sector could do a better job with the distribution of the videos.

Fourteen km down a dirt road from Masindi town, we met James Tinka, a smallholder rice and maize farmer. We were introduced by Emanuel Mugabe, the local agriculturist from UNFF, who had received a copy of the video but had not watched it himself.

During the interview, it emerged that UNFF had not shown the video to James Tinka. He had seen it courtesy of NaCRRRI, which had shown it to a group of 50 farmers in 2011.

During the interview, while Emanuel was graciously translating for us from English to Lugbaro, Emanuel started to realize how much Mr. Tinka had learned, and he wanted to go back to the office and look for the DVD that UNFF sent him and watch it.

Like many other farmers, Mr. Tinka had learned about planting in lines and adopted the practice. He also did an experiment we had not seen elsewhere. The videos say to keep seed in an airtight container. So Mr. Tinka kept some seed in a plastic Jerry can for 16 months and then “out of six seeds only one or two germinated.” (We are not quite sure what went wrong here. Perhaps his seed was not dry enough, and 16 months is a long time. Not all experiments work out.)



James Tinka throws a plastic bag to scare birds from rice. He wants some new ideas.

Mr. Tinka has been in a NaCRRRI group for several years and in 2009 produced certified seed. His visitors’ book has signatures from several researchers. He’s an unusually well-connected farmer, and clearly the videos are not his only source of information, but even so, like many rice farmers in Uganda he had one crucial need for more information -- on bird scaring. The children are in school, and every year Mr. Tinka and his wife spend a month in the field scaring birds out of the ripening grain.

Rice millers are natural partners

The Uganda Development Trust (UDET) is an NGO with support from AGRA to help agricultural processors. The rice millers have been quick to see that farmers who watch the videos soon bring more rice to the mills.

In Kampala, Brenda Anyango, program officer at UDET, said that the videos were “a big hit.” She works with rice millers. She knows the machinery so well that when we showed her some photos of one of the small mills we’d seen she could tell the model immediately.

“That one doesn’t get out stones, and it mixes the chaff with the bran,” she announced.

Brenda told us that first she got 50 DVDs and gave them to the millers, who asked for more. So she asked Grace for another 200 copies, and she’s given them to half a dozen millers. At least one other mill (Perepo) besides Upland Rice Millers shows the videos to farmers. All the rice mills give the videos to farmers because the mills keep records, and they can see that, after watching the videos, the farmers bring in more rice and better rice.

Lessons Learned About Farmers

Farmers learn from videos. The farmers’ response was beyond our expectations. Just by watching the videos, even without an extensionist to answer their questions, the farmers learned a lot about rice farming and improved their yields with low-cost innovations. Farmers’ main criticism of the videos was that the videos concentrated on lowland rice, and they needed information on upland rice, which emphasizes the importance of targeting video content to local farmer context and needs.

Farmers relate to farmers on camera. The farmers were fascinated to see smallholders like themselves growing rice in other countries. The videos’ respectful portrayal of farmers enhanced the viewers’ self-esteem. Smallholder farmers are still one of the largest occupation groups in the world. Yet many have been made to feel that they are backward, and that farmers in other countries all have tractors. Many farmers in Uganda realized for the first time in their lives that there are peasant farmers elsewhere in the world, working much like them.

Videos do not need to be filmed anew in each country. Contrary to the opinion of many extension experts, the farmers are not confused or discouraged by seeing agricultural films featuring foreign farmers. On the contrary, the farmers like seeing the new ideas shown in foreign countries. Seeing farmers elsewhere solving their own problems is a strong motivation to try out the new ideas presented in the videos.

Local language translations reach out to women. Rural African women are less likely than men to speak English or

another global language, so local language translations help to bridge the gender gap. So while it is not necessary to film the video in each country, it is crucial to make as many local language translations as possible. (This requires a script and other preparations).

Reach women and youth by including them in the videos. Women and youth identify more with videos that include interviews with youth and women. In future videos, women and youth should appear on camera.

Women and youth are more likely to attend open air screenings for the whole community. Showing the videos in large, outdoor settings (e.g., on the village football field) makes it possible for all the community members to see them, not just a select group of mature men.

Facilitation while watching the videos may not always be necessary, if the videos respond closely to farmers' learning needs and if the quality is high enough. All the rice videos shown in Uganda were developed according to the zooming-in, zooming-out method (Van Mele 2006, 2010) which resulted in effective farmer-to-farmer training videos.

For large-scale distribution, videos must be made in a way that allows local adaptation and use. For example, making a version in English and in French, with a written script, makes it easier to translate the videos into various African languages. Focusing on a widespread problem ensures that more extension providers will need and use the video, including development agencies and farmer organizations. However, there is a lot we don't know about the best way to show videos. Would 10 DVDs in a community create the same impact as having a large, open-air, facilitated show? Should DVDs be left in communities? Would farmers benefit from having fact sheets to left with them as an *aide de mémoire*?

Lessons Learned about Organizations

Organizations may fail to properly distribute the videos. Organizations are rewarded for conducting projects, not for distributing information. Incentives to encourage organizations to distribute quality training videos developed by other agencies may include: national awards for the best distribution efforts, regular follow-up phone calls to monitor distribution, and creating demand for DVDs from the communities by telling villagers about the DVDs. It may help to plan distribution with each organization.

Mass multiplication is needed to cover all possible distribution pathways. By limiting multiplication to a few hundred copies, few if any of the videos will end up in farmers' hands.

The distribution of videos needs to be improved. Every extensionist and every farmers' cooperative, association and organized group needs to have access to a copy of the videos.

Simply leaving boxes of the DVDs with organizations does not get videos to the grass-roots level. However, some organizations sold their copies of the DVD, which suggests another way to distribute them -- by encouraging a few sharp people to sell inexpensive copies of the DVDs.

Involve value chain actors in distribution of training videos. For example, the rice millers quickly realized that the videos helped raise farmers' rice production and made efforts to get videos into farmers' hands.

Feedback needs to be improved. When distributing the DVDs, Farmers' Media enclosed a questionnaire for viewers in English, French and Swahili. No one returned it, but this study has suggested some new ideas for getting feedback -- e.g., adding a subtitle to each local language video version inviting viewers to text or phone a local number to request more information. People will contact the number to get answers, and their questions (FAQs) will help build a portrait of viewer response. To monitor the distribution and spread of videos, resources need to be budgeted from the outset.

More could be done to ensure that farmers see the videos. Future efforts to distribute and show learning videos should emphasize ways of using local resources, such as rural video halls, tele-centers, radio stations and farmer organizations. Well-designed action research around this theme would create a wealth of new insights.

Ideas for improving distribution include: Showing the videos in *kibandas* before airing football games. Make more people aware that the videos are available online and freely downloadable at www.accessagriculture.org. Encourage NAADS to send more copies of the DVD to the districts. Distribute the videos through value chain actors (millers and agro-input dealers) because their business thrives when the farmers harvest more rice. Because some organizations have sold DVDs, we should try asking them to paying for more copies and recover costs.

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Disclaimer

This Case Study was made possible by the generous support of the American people through the United States Agency for International Development, USAID. The contents are the responsibility of the MEAS Consortium and do not necessarily reflect the views of USAID or the United States Government.

Technical editing by Leslie Johnson and Brent M. Simpson, Michigan State University, MEAS Series Editor, and production by Andrea Bohn, University of Illinois at Urbana-Champaign.

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*Prepared by Jeffery Bentley, Paul Van
Mele, and Grace Musimani, Agro-Insight*

July 2013, MEAS Case Study # 3

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Appendix 1. Responses from Organizations

The organizations hadn't always distributed or shown the videos as often as had been hoped, and they had less feedback from the field than anticipated. But most of the leaders interviewed had watched the videos, could discuss them and had formed a positive opinion about them.

1. How did extension service providers in East Africa perceive the videos from Asia and West Africa?

Reactions were generally positive.

UDET, BROSDI, TRIAS and NAADS liked them a lot. Sasakawa (although being largely funded with Asian money) was still slightly bemused at the idea of showing Bangladeshi videos in Africa.

NaCRRI wasn't sure but had noticed that, after watching the videos, farmers adopted the technologies.

Most didn't mind that the videos were foreign, but JICA would have preferred videos filmed in Uganda. Upland Rice Millers also would have liked that but understood that filming them again would cost too much.

Some organizations had not received feedback from the field (FAO, MAIFF, EAGC, UNFF, Centenary Bank and UNADA).

1.1 Did they show the videos, and how often and to whom?

Most of the organizations had shown the videos.

Sasakawa showed them to farmers and agro-input companies at field days, such as the field days at the end of a FFS. They also took some videos to "community resource centers."

NaCRRI used videos with Best Bets, a DFID project with Noah Phiri, at CABI/Nairobi.

FAO gave the videos to FFS facilitators and is not sure how many farmers saw them.

MAIFF also sent the videos to "key officers" but is not sure what happened.

UNFF sent the DVDs to member organizations in the rice growing districts.

NAADS showed some of the videos at the field level, but many field officers did not get videos. Not enough copies were distributed, and not all extension officers have equipment to show them.

TRIAS showed the videos in three sub-counties.

BROSDI gave them to field officers in Bugiri district who work with more than 200 farmer groups. All of the field officers got copies and were encouraged to show them at telecenters.

Some organizations did not show them: EAGC, UDET (but they did distribute them to rice millers), Centenary Bank and UNADA (who gave the DVDs to agro-dealers but did not show them). Africa 2000 Network is not sure if farmers saw the videos or not.

Upland Rice Millers made the most effort of all to show the videos. When farmers come to the mill, they see the video on a laptop. A group of 10 farmers can sign for the video and take it home, but only if they watch it first. Upland works with *kibandas* (village video halls) and publicizes a date when the farmers can come and watch the video.

Upland also has six extension agents, who were hired as part of the USAID LEAD Project. The extensionists did such a good job that Upland kept them on, and they show the videos in communities and help to bring in paddy to the mill. Electricity is slowly reaching Ugandan villages, but many still have no power.

1.2 What was their opinion of the videos and of ideas for future media-enhanced extension?

Most of the organizations liked the videos: Sasakawa, Upland Rice Millers, NaCRRI, FAO, UNFF, TRIAS, UDET, BROSDI and UNADA.

MAIFF also wants to make videos of small milling machines and put the videos on the Internet.

EAGC (Eastern Africa Grain Council) thinks that the videos should be facilitated by an extension agent and not simply shown in the village. That is a reasonable assumption, and we once thought the same, but this study has shown that farmers get a lot out of watching the video, even when there is no extension agent there to answer questions.

NAADS extensionists like showing the videos, but their problem is getting their hands on the DVDs and on the equipment. Extensionists often have to rely on their own resources. For example, in Kwimi, the NAADS extensionist, Silva, took his

own DVD player to two communities to show the videos. NAADS extensionist Christopher Wari in Mukono used his own TV to show videos until the equipment wore out.

Centenary Bank is afraid that the farmers don't have TVs or DVD players.

2. Did organizations distribute the videos to other organizations, and, if so, what was their distribution strategy -- how many copies to whom?

Sasakawa did distribute videos, and it provided a list of people who received them (see box on the right).

Upland Rice Millers gave 145 videos to farmers' groups, especially the ones on the islands of Lake Victoria. The videos are "like our encyclopedia of knowledge."

NaCRRI gave them to the NASECO Seed Company and the Center for Agricultural Inputs International (CAII).

FAO did distribute the videos to farmers groups but did not keep records. Now farmer groups are asking for more.

MAIFF "left distribution to NAADS" but did give some away at meetings.

EAGC gave them away at agribusiness fairs.

Uganda National Farmers Federation (UNFF) distributed the videos to some groups in the rice growing districts.

NAADS officials complained of not getting enough videos.

UDET gave away 50 videos and then requested another 200 copies, and it has given away half of those. UDET gave videos to Peyeru Millers, Agago (a project), Wamba Millers in Hoima and another miller in Hoima, Pasam Millers in Pallisa and Kihiki in the west of Uganda.

Some organizations (e.g., Africa 2000 Network, Centenary Bank, BROSDI and UNADA) did not share the DVDs with other organizations.

At least one organization was seen selling the DVDs for 10,000 shillings (\$4) at agricultural fairs. This was not the intent, but it does show that there was demand for the videos.

Received videos from Sasakawa:

Elizabeth Namokose-CBF
 Wari Christopher—Coordinator.
 Mukono District
 DCN Mukono
 DAO
 DPO
 Tobia Kolo—District Agricultural
 officer, Gulu district
 Kilara, Gulu, Margaret Patito
 Mufumbio Paul—SD and Jinja
 Momakeh Andrew

3. What are the recommendations of those who disseminated the videos to improve future distribution and use of agricultural training videos?

Upland Rice Millers simply wants more copies of the DVD.

NaCRRI suggests showing the videos in *kibandas* before football games.

MAIFF wants to put the videos on the Internet. (They seemed pleased during the interview when we told them to look for the videos on www.accessagriculture.com.)

NAADS needs to get more copies to the districts.

All of these suggestions have merit, but UDET may have the best idea: to distribute the videos through value chain actors (millers and agro-input dealers) because they prosper when the farmers harvest more rice.

Also, because some organizations have sold DVDs, we should try asking them to paying for more copies and recover costs.

3.1 How can a feedback mechanism be fitted onto videos in the future?

Although no partners suggested it, they should have all kept a detailed list of who got each copy, with the name and address. No one seemed to do this.

Sasakawa suggested printing a feedback sheet for extensionists to fill out after showing the video to farmers.

Upland Rice Millers said to work through the institutions that distribute the videos and to include a mobile phone number on the video that people can call with comments.

NAADS had a similar idea: at the end of the video, give information on key people to contact (e.g., extension agents), who can collect a list of frequently asked questions. This is not a bad idea; it is possible to add names and phone numbers on the local language versions as subtitles, along with the names of local language translators and narrators. If people feel they can get an answer to a question, they may phone in, and their questions provide researchers some idea of how the audience perceived the videos.

TRIAS said that it is linked with three farmers' associations, each with 5000 to 7000 members, and offered to get feedback from the farmers through those groups.

BROSDI suggested designating focal people to do the follow-up and to remind them by sending them text messages.

NaCRRI, MAIFF, EAGC and Africa 2000 Network were not sure.

Constructive criticism of the videos. For example, problems the service providers experienced.

EAGC and NAADS /Fort Portal (and perhaps some other users) could not access the various language tracks on the DVD. Some decks may not display the menu. However, UDET and many others said that the local languages were a big help. For example, BROSDI and Sasakawa said that the local language translations were very good.

NAADS (and some of the farmers) don't like hearing the strange languages (e.g., Bengali or Bambara) spoken by farmers before the voice-over drowns them out.

Sasakawa and EAGC both said that the parboiling video was not helpful because rice is not parboiled in East Africa.

MAIFF wants to see more African farmers on future DVDs.

However, the partners also suggested some more topics for future videos, suggesting that they found the video format helpful (see Table 4).

Table 4. Topics requested by organizations in Uganda for future videos.

Topic	Organization
New crops	
Beans	FAO
Maize	FAO, BROSDI
Sunflowers	FAO, Africa 2000 Network (A2N)
Soya	A2N
Root crops and tubers (e.g., sweet potatoes, cassava)	A2N, BROSDI
Orphan crops (e.g., finger millet, cowpeas)	A2N
Pest management	
Pest and disease management	UNFF, A2N, Sasakawa
Birds	UDET, NaCRRI, Sasakawa
Weeds	UNFF
Crop management	
Upland rice	TRIAS, JICA, Sasakawa
Proper seeding rates	UNFF
Inputs and soil fertility (e.g., where to get fertilizer and how to use it)	UNFF, A2N, UDET, UNADA
Proper harvesting	UNFF, TRIAS
Storage	UNFF
Agricultural services	
Weather forecasting	TRIAS
The entire value chain	NAADS
Marketing (including collective marketing)	UNFF
How to approach banking services	Centenary Bank

TRIAS added that six Belgian NGOs in Uganda, including TRIAS, PROTOS and Red Cross, are finishing a proposal on climate change for Belgian aid and will need videos on climate change.

4.1 What are their recommendations for improving the videos and service delivery?

The organizations had a few suggestions (see Table 5). We still see that some organizations want to make videos in Uganda. This is not so much a knee-jerk rejection of foreign videos as a way of saying that the videos are so good that we should make some here in Uganda, too.

Table 5. Recommendations for improving future videos and service delivery.

Idea	Organization
Make Ugandan or East African versions, where ecological conditions are similar to the ones facing farmers in Uganda.	Sasakawa
Give the videos to radio stations and TV broadcasters.	Upland Rice Millers
Have a Karamoja language version.	FAO
Put the videos on the Web.	MAIFF
Make key partners part of the entire process.	EAGC
Make videos in Uganda and on other crops.	BROSDI

4.2 Feedback they received from farmers regarding farmers speaking on the videos

The directors of various organizations had not received feedback from the farmers. Others were all quite positive (Table 6).

Table 6. Feedback from farmers about farmers being on camera

Idea	Organization
Farmers learn more from other farmers.	NaCRRRI
That was the best thing about the videos.	UNFF
It's perfect. Farmers learn more from other farmers.	NAADS
Farmers can identify with other farmers.	UDET
Farmers liked the videos.	BROSDI

4.3 Feedback they received from farmers about seeing videos from other countries

One reason this question was included was that in Uganda there was a delay in having the videos approved. The ministry (MAIFF) was reluctant to release foreign videos in Uganda. But at MAIFF we spoke with Allan Guma, who had been on the committee that approved the rice videos. He explained to us that the problem was not that the videos were foreign per se, but that MAIFF wants to promote modern practices. MAIFF thought that some of the practices shown in the videos were not modern, but after discussing the videos, the committee had a change of heart.

"We realized that we need to strike a balance. If you show a farmer using a tractor, he will not be able to use it. We need to show them the next technology, the intermediate one, or how to improve the existing technology," Mr. Guma explained. He said that they hope to be able to introduce more modern technologies in the future as Ugandan farmers become ready for them.

As we saw in our visits to farmers groups, the farmers like seeing the new ideas shown in foreign countries. Farmers' most frequent complaint is that they wanted to see upland rice. People who had watched the videos with farmers, such as the FAO and NAADS, knew that farmers liked seeing farmers from other countries. According to Upland Rice Millers, "The farmers say the videos are fantastic." UNFF realized that "Rice is rice. It doesn't matter to the farmers [if the farmers on camera are from other countries]." And as UDET put it, "A farmer is a farmer." Still the TRIAS field manager who had shown the videos to farmers said that it would be better to show African farmers.

Many did not know what the farmers' response was. And some of the people we talked to answered the question from their own perspective, not that of the farmers. For example, MAIFF did not like the image of farmers beating rice by hand to thresh it. And even though NaCRRRI participated in producing the Ugandan language tracks and uses the Rice Advice videos, it still hopes to be able to make videos about rice in Uganda in the future. (Making some new videos on upland rice would indeed be useful, but because upland rice is very new in Uganda, these videos may be better filmed in a country with a long history in upland rice cultivation.)

JICA said that, although the videos were very good, the pictures of Asian farmers made farmers pay more attention to the Asian personalities than to the content.

Sasakawa summed up the argument. In the training, some of the extensionists and technical people asked, “Why can’t the videos be made in our country?” But most farmers did not actually mind. Even so, Robert Anyang from Sasakawa still insisted that the videos need to be made in East Africa.

5. Other extension material that organizations use or want to use

The organizations had a lot of demands for ICT (Table 7).

Table 7. Extension material used or desired.

<i>Idea</i>	<i>Organization</i>
Wants to use solar-powered information centers with Internet, “simplified written material that any villager could use,” audio, and radio scripts and radio call-in shows.	Sasakawa
Radio and SMS (short message service) text messages. They also want to write four-page pamphlets to include in the agricultural section of the <i>New Vision</i> newspaper.	Upland Rice Millers
Someone needs to print the scripts of the videos.	NaCRRRI
Wants to make later versions of the videos with more updated technology in the future (e.g., small grain mills) as need evolves. Also wants to print a script of the videos to give to farmers.	MAIFF
There used to be films and video cassettes that were successful, so more videos should be used now.	UNFF
Wants user-friendly handbooks -- e.g., on keeping records of expenses and income on farm. They want videos and magazines that show stories of successful farmers to inspire other farmers to adopt technology, and more videos and more radio shows.	NAADS
FM radio is good at the appropriate hour, when farmers listen to it. Social media could be used, especially to reach youth. Now establishing young farmers clubs, and they have the equipment to watch videos.	Africa 2000 Network
Radio broadcasting and mobile phones (especially for marketing information) and videos.	TRIAS
Radio and posters	UDET
Radio. Turn the videos into pamphlets.	Centenary Bank
Make more videos.	BROSDI
Stream videos to make them available on cell phones.	UNADA

UNFF reminisced that there used to be an information section in the Ministry of Agriculture that would come to towns and villages in the evening and show films on cotton and other crops, using open broadcasting vans. This had a good impact because they would show the whole process, and at the end, the film would show the farmers buying bicycles with the money they made.

As people walked home from seeing the films, they would say to their friends, “I am going to plant cotton, too.” The films encouraged farmers also to plant coffee and to try other new ideas. However, this practice died out when the government privatized extension.

Appendix 2. Responses from farmers

1. What farmers learned from the videos

When we asked farmers what they had learned, they usually told us which practices they had used and adopted. They were especially impressed with seed selection, drying rice on tarps to keep stones out of it, spacing the hills to save seed and transplanting in lines. They learned much more than this, and most could have talked for a long time about what they saw in the videos.

Table 8. What farmers said they learned and adopted.

<i>Lesson learned</i>	<i>Nampolo-goma</i>	<i>Namu-longe</i>	<i>Katoka, Kwimi</i>	<i>George Ssewanda</i>	<i>Bukaya women's group</i>	<i>Buwenga</i>	<i>Barr, Lira</i>	<i>James Tinka</i>
<i>Seed selection</i>	X	X	X	X			X	
<i>Proper drying to avoid stones</i>			X	X	X		X	X
<i>Plant spacing, using less seed</i>	X		X		X			X
<i>Transplanting in lines</i>	X				X	X	X	
<i>Nursery beds</i>	X		X				X	
<i>Floating seeds</i>	X		X					X
<i>Land preparation</i>	X						X	
<i>Using herbicide</i>						X	X	
<i>Beating rice on logs</i>						X	X	
<i>Soaking seed</i>			X					
<i>Avoid mixing rice varieties after harvest</i>				X				
<i>Leveling ground, bunding (making ridges around the field) and weeding</i>							X	
<i>Cutting rice with pangas</i>							X	
<i>Transplanting and weeding</i>							X	
<i>Drying rice until it breaks between your teeth</i>							X	
<i>Rouging off types (uprooting plants of undesired varieties)</i>								

It is not always fair to ask farmers what they learned from the videos -- if they also get other extension visits, they may confound information from various sources. For example, one farmer said he learned to rogue off-types (to pull up rice plants from different varieties), but this is a technique for producing seed that he probably learned from NaCRRI. The videos do not cover rogueing of off-types.

2. How farmers changed their behavior after seeing the videos

In addition to the practices in Table 8:

Farmers in Nampologoma are now selecting seed, leveling the ground and mulching with rice straw instead of burning it. They no longer dry rice on the bare ground. They said their yields have increased by at least 50 percent. Some said their yields have doubled. They were not able to parboil rice just by watching the video. (The parboiling video aims to teach villagers how to improve their parboiling and assumes that they already know something about it.) But they are now interested in learning more about parboiling.

In Namulonge, they were not able to parboil either, after watching the video, but they learned about using fertilizer, sorting seed and drying rice. After planting in lines, they observed that it is now easier to control weeds. They learned to transplant rice when the seedlings are not too old.

As Saalongo Nsereko John explained in Namulonge, “We learned how to grow our rice, all the agronomic practices, and had a big difference. Like one day, Sylvia called us and invited us to view a video. It helped us a lot. The first thing it helped us to sort out seed, to know what kind to plant, and it showed us how to dry our rice. The video changed a lot of our lifestyle. When I talk about drying rice, we used to put the rice on the ground and it mixed with stones, and this was reducing the quality of the rice because it would be mixed with cow dung and stones, and chickens would play in it.”

The group in Katoka, Kwimi, had watched the videos only two or three weeks before we visited them, so they had had little time to put their new knowledge into practice, but one man had made a rice seedbed and transplanted rice.

The farmers in Mpunde, Mukono, were now using the planting density recommended in the videos.

The group in Bukanga, Iganga, were now mulching rice straw instead of burning it, and using proper spacing of rice plants.

The women in Buwenga were leveling the ground and fertilizing their maize crop as a result of watching the videos. They had applied rice knowledge to maize.

In Barr, Lira, the farmers were now preparing the land twice and planting in lines, which made weeding easier. They were also using herbicide and were harvesting at the right time, as recommended in the video.

James Tinka had tried storing his rice seed in an airtight plastic jerry can. He was also planting in lines, but he may have already learned this from NaCRRRI.

Several of the farmers said they were impressed by a hand-pushed rotary weeder they saw in the videos and were sorry they could not try it because the tool is not sold in Uganda. They were eager to try it, revealing how smallholder farmers are quick to grasp ideas that they find useful. We hope that NaCCRI, UNFF and UNADA will take note of this farmer demand for appropriate technology.

3. How farmers have shared the information

Almost all the farmers we talked to had shared the information in one way or another, often by showing the video (Table 9). Some of the recommendations are highly visible. For example, the neighbors can easily see if one has made a seedbed, planted rice farther apart than usual, planted it in lines and mulched in rice straw. Perhaps these eminently visible recommendations will spread faster than others or pique other farmers’ curiosity enough that the neighbors will ask what else an innovative farmer is doing differently.

Table 9. How farmers shared the information.

<i>Group</i>	<i>How they shared the information</i>
CITARD, Nampologoma	They showed the videos to 322 farmers. One community member set his TV on the street to show the videos to passers-by.
Namulonge Vegetable Farmers’ Association	64 people saw the video. Sylvia Nsamba has taken her TV to several places to show the videos.
Katoka in Kwimi	They had not discussed the video much since seeing it (recently).
Mpunde, Mukono	Some farmers who watched the videos have told their neighbors about planting in lines.
Bukanga women’s group, Iganga	Unclear
The women in Buwenga	Sasakawa showed the videos over three visits. It is unclear how much of it farmers shared.
The cooperative in Barr, Lira	They showed the video every Sunday in the village until 500 people had seen it. Now they want to take it around and show it again. They also share ideas with other farmers as they work in the fields, so that the neighbors can also harvest more rice.

4. Reaching women and youth

Video is a good format for reaching youth, who already like watching movies. If agriculture can be made profitable, youth will be more attracted to it. Videos also reach women, especially if the whole village is invited. In meetings women sometimes stay at the edge, but a public video showing allows everyone to watch and learn. In Uganda we noticed that women spoke less English than men. Thus making local language videos is a big step towards reaching more village women.

CITARD, in Nampologoma, has 350 women among its 1000 members. By watching the videos, the women learned to select seed, dry rice, prepare land twice and fertilize a seedbed. They also learned transplanting and soaking seeds. The group suggests putting more youth in the videos to encourage young farmers.

In Namulonge, farmers said that the video helped inspire youth not to run away to the cities but to stay and farm. The Mali video showed that youth who had left the village to go to the city did not do very well, but those who remained became very successful.

In Katoka, few of the youth had seen the video. As we discussed it with the elders, the youth gathered around and said that they were only then learning what they had missed, and they began to get interested in seeing the videos. (Obviously, showing the videos to large groups will help reach more women and youth.)

In Barr, Lira, the women learned seedbed preparation, land preparation, planting, weeding and fertilizing with urea. The videos were a good way of reaching them. People also said that now the youth are staying in the village; they are making money from rice, so they feel motivated to farm.

5. What did farmers think of the videos -- e.g., were they objectionable in any way?

Though the farmers were delighted with the videos, when asked to critique them, they had a lot to say. For many of these farmers, seeing other smallholders on film was like seeing themselves in a mirror for the first time. Rural Ugandans are used to seeing foreign movies, but movies show celebrities and glamorous lifestyles, not other farmers, real ones, speaking articulately. Some farmers in Uganda imagined that no one else in the world did the kind of work they did until they saw the videos. The farmers got a sense that they were not alone -- they were part of a worldwide occupation group.

In Nampologoma, the local language is Lungoli, and although most of the people can speak Luganda, they want an audio track in Lungoli. But "At least people are learning from the videos; they're not watching Bruce Lee." The villagers also want to take part in training videos to show in Benin and Bangladesh.

"Viewing videos from different countries was good. We saw things we didn't do. Previously we burned all the rice straw. After watching the video, we saw what our brothers and sisters in other countries are doing, and we can learn something more because there is not much difference in the climate," farmers in Nampologoma said.

In Namulonge, they asked us if farmers in Mali had shoes. "Why don't they wear gum boots, like we do?" They wondered if the Malians were too poor to buy shoes, or if working barefoot was one of the recommendations. (In fact, for upland rice, wearing boots would make sense, but in a puddled paddy field rubber boots easily get stuck in the mud.)

In Namulonge, they also noticed that the farmers in other countries had different kinds of hoes ("which are not available here") and that they had oxen. We asked if that bothered them, to see the oxen. "It's great to see, but few here have oxen," they said.

But when the farmers in Namulonge saw the dogs and the chickens in the video, they realized that these were poor village farmers, like themselves. They identified with the farmers in the videos.

One man, Swaib, even said that watching the videos made him proud to be a farmer because he could learn from other farmers. (Improving self-esteem is one of the aims of the videos.)

In Katoka, Kwimi, the farmers said they want a video on upland rice, they want a little weeding machine like the one they saw in the video, and they don't mind seeing foreigners in the film.

Young George Ssewanda in Mukono was amused to see farmers just like him in the video.

The farmers in Mukono wanted videos on bird scaring. The women's group in Bukanga wanted videos on upland rice and on which pesticides to apply.

The women in Buwenga were impressed that the fields in the videos were weed-free. They didn't like seeing agrochemicals, but they were impressed that farmers in other countries dig the earth with hoes. "We were surprised to see that farmers in Bangladesh also dig. We thought that only African farmers did. We thought everybody out there uses

tractors. We were impressed that it was farmers talking on the video, not [extensionists].” (As this comment shows, even though smallholder farmers are the world’s most common profession, they are cut off from their colleagues in other countries. Farmers’ isolation allows extension services with a romantic belief in modernism to create false impressions and frustration among those who do not adopt tractors and other technology that they cannot afford.)

The farmers in Barr didn’t like to see the farmers puddling the fields with their feet (no doubt they thought it was too much work). Nor did they like hearing the other language before the Luo voice-over started, but they liked seeing other farmers in the film. These farmers want to see videos on pest management, and they want training on mineral (i.e., nutrient) deficiency. “How do you know when you need to apply nitrogen?” they asked. The cooperative in Barr wants us to come back and make a video with them.

James Tinka in Masindi also liked seeing farmers in the videos and wants to see a video made in Uganda, too.

6. How to improve training videos in the future

The farmers have many ideas about topics they want to see in future videos. The videos caught their imagination. Nor did the farmers ask very often for material donations. They liked the information they had seen and wanted more.

Table 10. Farmers’ ideas for improving training videos in the future.

<i>Group</i>	<i>Suggestions</i>
CITARD, Nampologoma	Some videos should be produced here. We want to learn value addition and packaging, warehouse receipts and water management. We want a video on how to apply fertilizer, and more information on improving soil fertility and how to find the level of fertility in the ground. After seeing the video, now we want to learn about parboiling. We would like to learn to use plows for big fields and not just dig with hoes. Also, we want to learn about new varieties, pesticides and protective gear to use, and how to scare birds. How have communities elsewhere overcome drudgery? We want to learn technologies to overcome drudgery. We want to see videos about successful people, about marketing and a better method of harvesting so we don’t drop so much rice on the ground. We want to learn what to do with the rice husks. Come back to make videos with us, and you can take them to Benin and Bangladesh to share with other farmers!
Namulonge Vegetable Farmers’ Association	Include bird scaring and common diseases of rice, and stem borers, pesticides and herbicides. Show us technology for harvest and postharvest, how to avoid breaking rice, because broken rice is sold cheaply.
Katoka in Kwimi	We want more crops, such as maize, millet, sorghum, onion, banana, and pests and diseases of rice. We want videos on upland rice.
George Ssewanda (youth farmer)	I want more information on fertilizer use, bird scaring, upland rice, climate change, soil fertility, how to measure the fertility of the soil. I want videos on maize, plantains, beans and fish (e.g., cage farming), banana bacterial wilt and crop diseases.
Mpunde, Mukono	Birds are a big problem. We want to know about better herbicides.
Bukanga women’s group, Iganga	Show us rice disease, and “show us the market.”
The women in Buwenga	We want videos on milling and storage, harvesting technologies, threshing, marketing and bird scaring.
The cooperative in Barr, Lira	Put the videos in our dialect of Luo.
James Tinka in Masindi	I want videos on how to apply fertilizer, how to scare birds. Make videos that go from planting to storage, including weeding, spacing, planting in lines, proper seed, and producing seed and marketing. (Some of these topics are covered in the videos, but he had seen only some of them).

7. Farmer suggestions for enhancing community access to agricultural training videos.

The farmers were enthusiastic about ways to help more people see the Rice Advice videos. And as the women in Buwenga observed, the key to community access is that **each extension agent or community facilitator must have a copy of the videos.**

Table 11. Farmers' ideas for enhancing community access to videos.

<i>Group</i>	<i>Suggestions</i>
CITARD, Nampologoma	We want to share the videos with 5000 members of the 3000-acre Doha Irrigation Scheme. Other trainings on rice production would be good. We want visits from extension agents. Show more women and youth in the videos as a way of involving women and youth in the audience. Show us how to control snails in paddy fields, and how to go to the bank and use bank services.
Namulonge Vegetable Farmers' Association	We noticed the feedback form but thought it was in French and never unfolded it.
Katoka in Kwimi	Make more copies of the DVD so we can have one to leave in the community.
George Ssewanda (youth farmer)	Work with the grass-roots organizations to get feedback.
Mpunde, Mukono	Show the videos to everyone in the world.
Bukanga women's group, Iganga	Leave a copy of the DVD here. The DVD should have a Ugandan context.
The women in Buwenga	Show the videos to groups of farmers through the local extension agents, each of whom should have their own copy of the DVD.
The cooperative in Barr, Lira	We want to show the videos again!

City people, farmers and foreigners

We learned that some farmers want Ugandan videos or that they want to appear in videos. We also saw that some white-collar agriculturists also like the foreign videos. The city people's criticisms were more reasonable than we anticipated -- they want the videos to show agro-ecologies like the local one and appropriate technologies.

The farmers were quick to notice the foreign technologies that they could not use, such as the little hoes. Yet it takes one to know one, and the Ugandan farmers were quick to realize that these foreigners are real farmers, like themselves, who also dig in the soil. Many realized for the first time in their lives that there are peasant farmers elsewhere in the world.

Appendix 3. Account of Rice Advice videos by farmers in Nampologoma, Butaleja District

By Naleba Ahmed, CITARD

Rice Advice videos transform lives of Butaleja rice farmers

The Directorate of Communication and Information Technology for Agriculture and Rural Development (CITARD), which is promoting rice production in Butaleja district, received copies of Rice Advice videos produced by Africa Rice and Kilimo Trust from *Farmers' Media* (a Ugandan newspaper) and mobilized many farmers to watch them so that they could adopt the simple technologies exhibited in the videos. Little did we know that this was going to be the catalyst for transforming the lives of farmers in Butaleja District.

Given our encouragement, farmers readily took on the new and simple methods in the video -- for example, the method of seed sorting by flotation before making the nursery bed as a way of ensuring quality of seed was a major boost to production because less rice was wasted in making nursery beds, and those used were healthy seed that guaranteed healthy plants.



CITARD members sort seed by flotation before making nursery beds. This is one of the methods adopted from the Rice Advice videos.

Proper seedbed preparation before planting, as shown in the videos, is key in the production process of rice. Farmers are now taking this seriously, as shown in the pictures below. Previously they would just dig and plant for the next season without preparing the soils well for the new season. The Rice Advice videos stressed the need to adequately prepare the seedbeds and showed how this was done. The farmers now prepare their gardens properly before planting, which has seen an increase in production.



Farmers preparing their gardens before planting rice for the new season as advised in the videos.

The farmers have also begun to plant rice in straight rows because this made weeding easier and therefore helped farmers save on the time they normally spent in their rice plantings. Many farmers have said that they could now use this spare time planting other crops to boost the family diet.



The technique of planting rice in lines is also being adopted by farmers.



A young farmer using a stick to scare away birds. This method is tiresome and not very effective.

The major impact of these technologies, however, has been increased production -- more is being harvested out of an acre of land than ever before. This has translated into increased revenue to the farmers. The total output after the adoption of the video technologies is estimated at 1000 kg per acre, up from 700 to 800 kg in previous seasons. This means more income. An average increase of 200 kg per acre with rice averaging 2000 shillings per kilo on the market means an increase of 400,000 shillings to a farmer.

There has also been an increase in food security. The increase in the yields has enabled farmers to save a portion of their harvests for domestic consumption. Previously farmers would sell all to pay off loans, school fees and other outstanding bills.

“We are able to produce more rice for sale and home consumption after adopting these technologies, and now we do not have to save some rice painfully in order to feed our families as we are able to do this satisfactorily,” said Mr. Kamy Ibrahim, a farmer and a CITARD member.

With increased food security we have observed better family relationships. Families are now more stable and there is less domestic violence. Most families in Butaleja are polygamous, and it had become increasingly difficult for men to provide the bare necessities.

One great thing about the videos was that the technology was simple and the techniques could be easily adopted. “...after watching the Rice video just before the start of the last season, we decided to try and adopt most of these technologies because they looked simple and easily applicable. These included transplanting, seed sorting, making of the nursery beds and many others. These turned out to be a miracle as our production totally changed, and now our yield was so good that we have even paid school fees for our children,” said Mr. Magudu Hussien, a rice farmer and a CITARD member.

Despite the fact that there has been an improvement in the farmers’ livelihoods, the challenges of growing rice in Butaleja are still enormous in terms of the man hours spent on the farm, lack of access to improved technologies, etc.

One of the biggest problems of rice growing communities is that farmers spend almost 90 percent of their working hours tending to their rice fields. This minimizes their participation in other domestic or income-generating activities. For example, many rice farmers do not have the time to grow other food crops to supplement their diet, so most families are affected by malnutrition. There is therefore need for technology that would help reduce the man hours on the rice fields and yet still maintain production.

Farmers also request video materials on bird scaring in rice fields. This is a very key problem to farmers that consumes a lot of time.

“We still want to know which technology is best for chasing away birds from our rice as this is one of the biggest challenges that we have right now ” said Mr. Sagula Robert, a farmer and member of CITARD.