

Video-mediated farmer-to-farmer learning for sustainable agriculture

A scoping study for SDC, SAI Platform and GFRAS

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October 8, 2011

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communicating agriculture

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Acknowledgements

The on-line survey, this report and the subsequent discussions on establishing Access Agriculture have benefitted greatly from inputs from Pierre-André Cordey and Markus Bürlü (SDC); Peter-Erik Ywema and Emeline Fellus (SAI Platform); Kristin Davis (GFRAS); Josephine Rodgers and Phil Malone (Countrywise Communication); Jeffery Bentley (Agro-Insight); Chris Dabbs and James Wilkinson (Streaming Tank); and Markus Giger (University of Bern).

Executive summary

From June to September 2011, Agro-Insight conducted a scoping study for SDC, GFRAS and SAI Platform on the production, dissemination and use of farmer training videos in developing countries, with a focus on sustainable agriculture. Literature was consulted, the internet screened, experts and users consulted and a global on-line survey launched in English, French and Spanish.

The on-line survey, with more than 500 respondents, indicated that research institutes, universities and NGOs are better linked to professional networks and hence more easily reached through the internet than extension services, radio stations and farmer organizations. Although feedback from the food industry was relatively low, most SAI Platform members were represented.

There is a general consensus that farmers need good agricultural training videos, but they do not browse the web in search of them. For watching videos they rely mainly on outside agencies. Farmers would watch videos on their own with their family or neighbours if video disc distribution mechanisms were in place. And they are willing to pay for video discs and video shows.

Only about 20% of all respondents have never used video to train farmers and have never searched the web for agricultural videos. Many of those didn't know where to look for videos, hadn't found videos on the right subject or hadn't found videos in their local language.

About 85% of the respondents found local languages very important for farmer training videos. To ensure that videos are sharable and of use to the global community of extension service providers and farmers, producing many poor quality local language videos is not cost-effective. The zooming-in, zooming-out (ZIZO) approach shows how to make regionally relevant and locally appropriate videos. Organizations are willing to translate and use videos made in other countries if they are relevant and of good quality, and if video scripts are available. Lower quality videos serve intermediaries only and are rarely used to actually train farmers. The five priority areas for new video productions are: crops and trees, water management, plant health, soil health and farmer organizations.

The report compares the pros and cons of key models of farmer-to-farmer video production and dissemination, and discusses the implications for future capacity building and how each model could contribute content to a global web-based platform.

Most (82%) public and private service providers are keen on the idea of a new web-based platform devoted to agricultural training videos only. Many people opposed including advocacy and opinion sharing, but suggested a type of a discussion forum for users of the platform to exchange experiences on video production and use.

To reach farmers with agricultural videos, a new web-based platform is required, but not sufficient. Efforts to link people with different professional backgrounds and to establish regional and national communication, translation and video disc distribution mechanisms have to be established.

A new not-for-profit organization, called Access Agriculture, is proposed to facilitate content creation and sharing of agricultural training videos through its web-based platform and an evolving network of linkages and experts. Institutional set up and operational models for Access Agriculture have been discussed with SDC, GFRAS and SAI Platform, but are not included in this report.

1 Background

The Global Forum for Rural Advisory Services (GFRAS), the Sustainable Agriculture Initiative (SAI) Platform and the Swiss Agency for Development and Cooperation (SDC) have asked Agro-Insight to implement the following study:

How can video and a web-based platform for video exchange contribute to farmer-to-farmer learning among the rural poor across the globe, with a focus on sustainable agriculture?

The purpose of this study is to provide evidence-based information and a framework of analysis for development partners to make decisions regarding the launching of a common project of an open and global internet-based exchange platform for farmers using short video clips.

In particular, the study provides scenarios regarding:

- the challenge of combining a global platform with a demand-oriented approach for specific contexts and groups (gender, age, culture), and promoting intercultural exchange across the globe;
- the mix of content of the information/knowledge produced and provided, ranging from technical and methodological learning to “opinion sharing” and awareness raising;
- the combination of ICTs according to content and contexts;
- the potential for linkages with existing initiatives, for institutional ownership and embeddedness in national and sub-national contexts.

2 Method

From June to September 2011, research was conducted on the production, dissemination and use of farmer training videos in developing countries, with a focus on sustainable agriculture. Literature was consulted, the internet screened, and experts across the globe were consulted via email. During other assignments in Africa and South Asia more in-depth interactions took place with people who had a keen interest in agricultural video, such as staff from Digital Green, India.

At the same time a global on-line survey was launched in English, French and Spanish. The survey was announced via various listservs, websites and blogs (Association for International Agricultural and Extension Education; CTA; FFSNet; KIT; LinkedIn Association for International Agriculture and Rural Development; Prolinnova E-group; Swiss Forum for Rural Advisory Services; and various regional farmer platforms such as ROPPA, PROPAC, EAFF). A full list of websites on which the survey was announced is given in Annex 1. Quite some respondents were subsequently contacted by email with targeted questions. A selection of their responses has been included in the report as quotes.

A draft report was submitted on August 31st. The results and ideas for a proposal were presented in Lausanne, Switzerland on September 26-27 during which colleagues from GFRAS, SDC, Nestlé and SAI Platform provided valuable feedback that helped to revise the proposal.

The report follows a logical structure: Video in agricultural extension (Section 3); Models of producing and disseminating farmer training videos (Section 4); Agricultural videos on the internet (Section 5); Feasibility of web-based platform for video sharing (Section 6); Proposal (Section 7); and an Implementation plan with budget (Section 8).

3 Video in agricultural extension

3.1 The changing context of agricultural extension

Within the quickly changing context of agricultural extension in developing countries, many new players have entered the field. Enhancing learning among all these actors has become a particularly important challenge. Various organizations have started assuming a role as knowledge broker at the local, national, regional or global level. While in some places the publicly funded national extension service is still active, in most developing countries their influence has waned and the extension functions (organizing and strengthening farmer groups, training, articulating demand, networking, linking to markets...) are fulfilled by a dispersed and non-coordinated body of organizations, entrepreneurs and projects.

Obtaining insights in the use of video in agricultural extension in developing countries is hampered by the near total lack of documentation and impact studies. The mushrooming of information and communication technology (ICT) projects over the past decade has been followed by an equally impressive string of studies. Video, however, hardly featured in any of them. Cheap digital technology and an increasing appreciation that visual support tools are needed to enhance impact have triggered the interest in video for rural development. This coincides with an emerging understanding that ICT technologies are only as useful as the content they carry and the intent and skills of the people using them (Toyama, 2010).

Feedback to our on-line video survey came mainly from people working in Africa, Central and South Asia and Latin America. The type of respondents showed that some professional groups are more “connected” to professional networks and the internet than others (Table 1). Those groups who responded to the web survey will be the likely users of a web-based service for video sharing.

Table 1. Respondents to survey on video use (n=505; August 29, 2011)

	Number	%
National research & university	119	24
International research	81	16
International NGO	64	13
National or local NGO	55	11
Extension service	39	8
Radio	24	5
Food industry	23	5
Farmer organization	19	4
Communication enterprise	12	2
Other	69	14

National research institutes (including universities in developing countries), international R&D and non-governmental organizations emerged as principle users of agricultural training videos. Radio broadcasters, farmer organizations and extension agents have less access to coordinated networks (and the internet) and will more likely benefit indirectly from a web-based platform through video CD or DVD compilations around specific themes.

Although we had only 24 respondents from the food industry, these represented the major companies and members of the Sustainable Agriculture Initiative (SAI) Platform: AgroFair, AMSA, Aviko, 3F Oil Palm Agrotech Pvt Ltd, FoodDrinkEurope, FrieslandCampina, General Mills, Heineken, Kellogg Company, McCain, McDonald's Europe, Nestec, Nestlé, PepsiCo International, Sara Lee, Syngenta and Unilever. Only five out of these companies never used video in training their farmers.

3.2 The importance of audio-visual aids in extension

From our on-line survey, 78% used video to train farmers, of which half mentioned using video occasionally (Figure 1). Apart from training farmers directly with video, also about half of the respondents said that they looked at videos themselves to get new ideas for extension experiences.

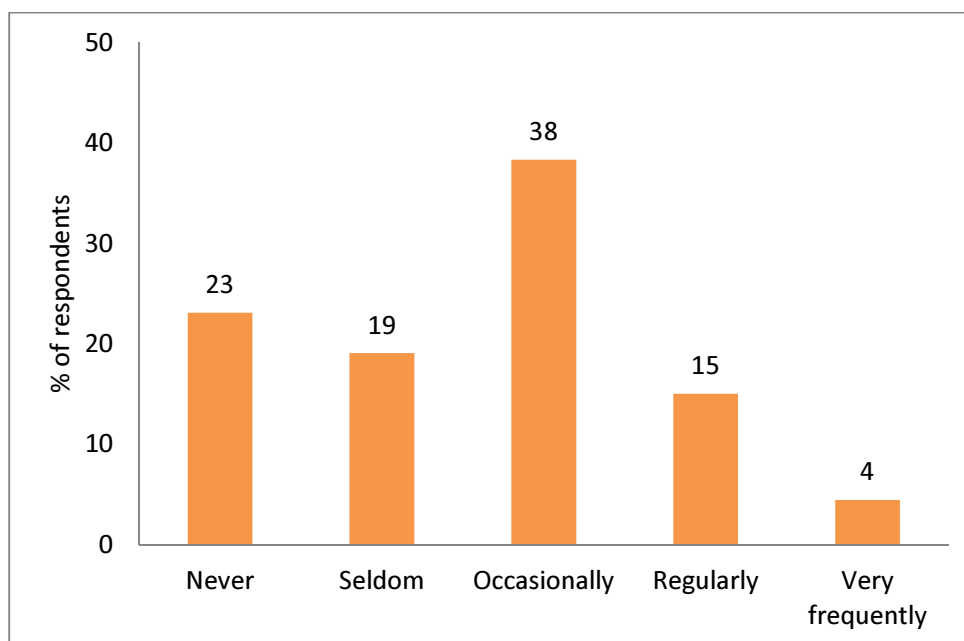


Figure 1. Frequency of video use to train farmers (n=472)

Those who did not or only rarely use video to train farmers mainly did so because they either did not find local language videos; did not know where to look for videos; or did not find videos on the right subject (Table 2). Some said they do not train farmers themselves or only recently began exploring the use of video in training their farmers; others asked to point them in the right direction as to where they could find good agricultural videos. The large response and type of answers clearly shows a keen and growing interest in agricultural training videos.

Although video has tremendous power to trigger learning across organizations and across cultures (Van Mele *et al.*, 2010b), over the past decade radio has received far greater international attention (Girard, 2003). This perhaps with the exception of Nigeria where rural based radio programmes were virtually unknown and television was quoted by Arokoya (2005) to be the major ICT used (Ovwigho *et al.*, 2009). Debates on communication should focus as much as possible on how

complementarity can be built between various media and media professionals. For training farmers, for instance, radio has two disadvantages: many radio broadcasters do not have a background in agriculture or the means to regularly interact with farmers; and many agricultural technologies are hard to explain in words only. Video could play a significant role in strengthening rural radio broadcast services.

Table 2. Reasons for not or rarely using video (n=166)

	Number	%
I don't know where to look for videos	59	25
I haven't found videos on the right subject	39	16
I haven't found videos in local language	54	23
Other	86	36

In our on-line survey, the visual aspect was quoted as one of the key characteristics that make video effective in training farmers. Other common remarks were the need to have farmers demonstrate the technologies rather than experts, and that all is explained in an easy-to-understand language.

"The audience is able to visualize what is being taught. Some actions may be difficult to explain but easy to understand once someone has seen."

Lebai Nsemwa, Zonal Agricultural Research and Development Centre,
Mbeya, Tanzania

"It looks very real, it creates excitement, attracts more people. The farmers are very attentive capturing and noting every action."

Salami Oshioke Abdullahi, FCT Agric Development Project, Abuja, Nigeria

"In our region of Africa, we adhere easily to the concept "Blessed are those who believe after seeing". We are in a predominantly illiterate context and it is easier to convince illiterate people with images than with words."

Jean-Pierre Boussim, Radio Paglayiri, Burkina Faso

"People see their reality through the experience of others. People like graphical messages. In videos, you can present the past, the present and the future. You can make a good script, supported by a well conducted research, about people needs and how to fulfil them."

Ramón Arbona, Instituto Dominicano de Investigaciones Agropecuarias y Forestales,
Dominican Republic

Although answers differed according to the local context and people’s personal experiences, most respondents found video a very useful tool to reach illiterate, youth, women and to train groups (Figure 2).

Agricultural training videos have had significant impacts on women’s livelihoods in Bangladesh (Van Mele *et al.*, 2007; Chowdhury *et al.*, 2011) and Benin (Zossou *et al.*, 2009a, 2010). However, in both cases the videos were made with rural women, targeting subjects of interest to women, and the videos were disseminated or shown by organizations targeting women. In India, Sulaiman and colleagues (2011a) warned for the dangers of ICT being socially exclusive if no special attention was paid to gender. In teaching rural children in Nigeria about construction of vegetable beds, simple farm tools and soil conservation, video was as powerful as real-life demonstrations (Isiaka, 2007).

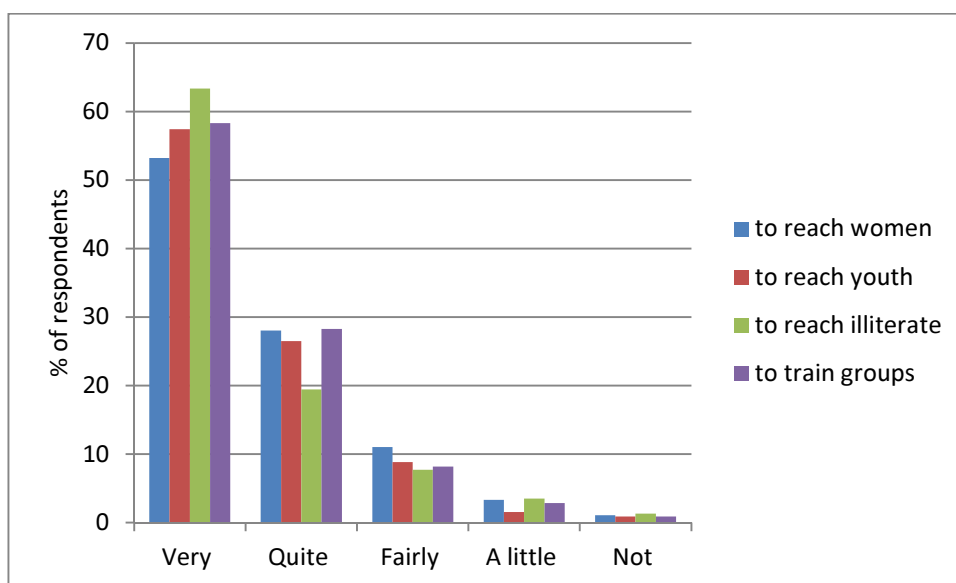


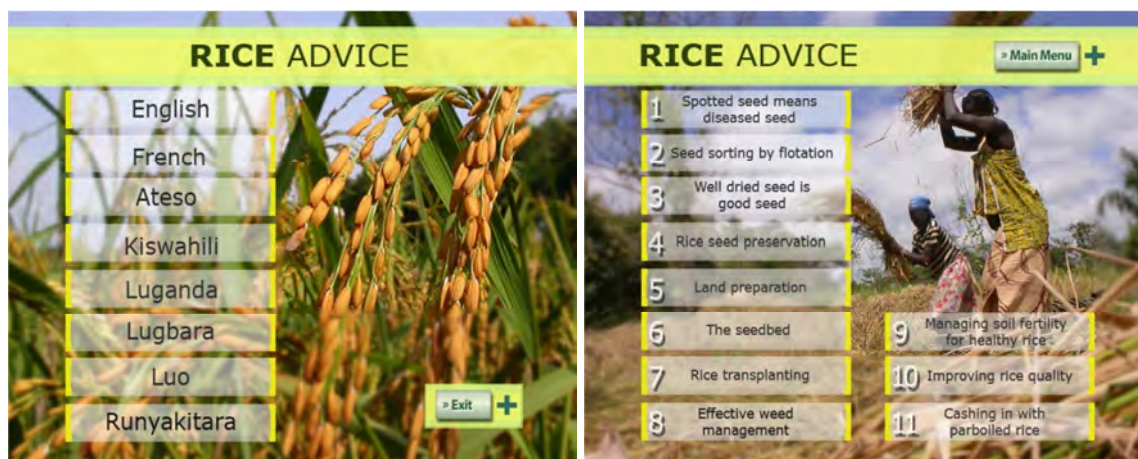
Figure 2. Usefulness of video to reach different audiences (n=453)

3.3 Farmers’ hunger for visual support tools

Many people believe that video discs cannot be readily viewed by farmers, an attitude prevalent among researchers, service providers and others. However, when farmers are asked what they would do if they were given a video disc with information related to their farming business, but not the equipment to play it on, most will say they would ‘find a way’.

Women groups in Bangladesh who were given a VCD on rice seed health reported that they watched the videos on various occasions and on average 6.2 times (Chowdhury *et al.*, 2011). They watched 2.4 times with the group members only; 1.9 times with group members and neighbours or villagers; 0.9 times with family members and neighbours; and 0.8 times during TV broadcasting. Although the videos were expected to be mainly watched by the group members, neighbours and community members equally attended the shows, indicating they collectively watched the videos.

Farmers who watched the Rice Advice videos, made by the Africa Rice Center (AfricaRice) and containing eleven learning modules, were eager to obtain a copy and were even ready to pay for it.



Disseminating learner-centred videos poses specific challenges. Many companies and organizations did not know what was 'on offer' until they saw the finished DVD with all programs in multiple languages all on one disc.

Farmers in developing countries do watch agricultural videos when made available on discs. In Cambodia, an ACIAR project produced a comedy routine by a famous Cambodian comedian team to address the tension between traditional organic and more modern inorganic fertilizer use.

“Copying [our] DVDs is so rampant in Cambodia that there is no way to keep up with sales. Unlike S Asia which has Bollywood, there are very few Khmer DVDs unless dubbed and the quality is poor. Ours has been copied and probably shown to at least 55% of the population so far. Through buses, but copies are readily being made and sold in villages. The DVD when sold is often VCD format.”

Craig A. Meisner, Sector Manager Research and Extension, Cambodia

The majority of participants in group discussions in Lira district in Uganda indicated their willingness to pay for agricultural video shows, as well as to contribute towards buying video equipment. While the majority of male participants were willing to pay US\$ 500 (20 cents, US) for one-hour video shows, female participants suggested US\$ 100 500 (4 cents, US) (Tumwekwase Ahabwe *et al.*, 2009).

In Hohoe municipality, Ghana, most rice farmers (n=200) accessed information on rice through the radio. The next preferred media were television and video. Besides radio, more males preferred to access the print media while most females opted for television, video and mobile phone. When asked whether they would listen to a rice video commentary on radio if they had the chance, 98.5% of respondents said yes. Affordability to have one's own set was more problematic for video than for TV (Parker Halm, 2010).

Rural communities in many countries, with the spread of rural electrification and television coverage have expanded access to TV broadcasts. More affordable pricing have also made video players almost as available as television sets. However, the agricultural sector in general has lagged behind in exploring and tapping the potentials this has to offer (Flor, 2002).

3.4 Video uptake and use

3.4.1 Flexibility in use

Agricultural training videos can be used in different ways, either directly by farmers themselves or by any organization interacting with them (Table 3). An added advantage of video is that (apart from the rare use of video on mobile phones) they are mainly viewed by groups or by entire communities. Whether facilitated by an outside agency or watched with the family or neighbours, watching a video always provokes discussion afterwards.

The fact that 28% of the respondents were able to broadcast video on TV indicates that TV stations are in need of content to fill their agricultural programs. About 21 respondents (5% of those who responded to this question) had ever used video clips on their mobile phone, but very few provided additional information when probed.

	Number	%
Small group viewing	314	80
Ideas for extension	203	52
Community viewing	201	51
TV broadcast	110	28
Radio broadcast	71	18
Mobile phones	21	5
Other	76	19

All those who responded to the question on video use were contacted by email to ask if they had more details or any reports available. The results were sobering. Despite the many initiatives and experiences of individuals across the globe, there are almost no written accounts, curtailing the scope to obtain useful insights (but see Bentley and Van Mele 2011).

The next two pages mainly draw on experiences from AfricaRice, as quite some action research was undertaken on video-mediated rural learning from 2005 to 2010.

3.4.2 Compact discs for easy dissemination

By 2010 AfricaRice had distributed the rice video CDs to over 200 organizations who in turn multiplied and shared them with over 800 organizations. Development agencies, networks and projects were most active in disseminating the video discs, followed by national research institutes and international NGOs. The first three made the largest number of copies and reached the widest range of organizations. Whereas universities, schools, networks and TV surely contributed to making the videos more widely known, so far there is only anecdotal evidence of them multiplying and further distributing the videos.

“Here, we use the audio and video of the cd for any purpose as long as our goal is reached, namely of sensitizing the rural people. Sometimes, we exchange video discs when farmers needs them; we even help them copy and burn a disc so they can watch it at home.”

Jean Bio Yere, Radio rurale locale de Banikoara, Benin

AfricaRice works closely with the national agricultural research systems (NARS), so most received copies directly from AfricaRice. However, extension services and farmers’ associations received copies mainly via projects and NGOs, indicating how effective and attractive farmer training materials to some extent find their way in the system.

Respondents to the on-line survey on video use often indicated the need to cater for CD-based dissemination rather than just having videos available on the internet.

3.4.3 Rural radio stations and networks

Rural radio stations made good use of the rice videos to build the capacities of their own staff, by either promoting them to their audience through regular announcements, showing them in villages or in their station during market days. Some of the stations sold copies to farmers at one US\$ per copy. While some were afraid to make additional copies as they thought the videos were copyright protected, still others creatively broadcast (all or parts of) the audio track, or built radio talk shows around them.

About 77% of farmers in DR Congo surveyed mentioned they wanted to hear the audio of farmer training videos on their radio (AfricaRice, unpublished data).

In 2008 AfricaRice partnered with the Canada-based NGO, Farm Radio International (FRI). At first, the rice videos were used as a resource from which radio scripts were developed and shared through its network. Also, radio broadcasters were provided with contact addresses of people at national research institutes and NGOs who had copies of the videos. AfricaRice hoped that by doing so, new linkages would be established between rural radio stations and agricultural organizations. Again, it proved hard to collect feedback and, apart from some anecdotal evidence, it was unclear whether the initiative succeeded in linking organizations in this way.

In 2009, AfricaRice then asked FRI to insert in their newsletter an English or French DVD of Rice Advice (containing eleven rice video programs) for those members working in a rice-growing country. The network of more than 350 radio organizations that FRI has established over the past 30 years was a great asset to (mainly) reach rural radio stations and local NGOs directly. Out of the 61 respondents to a survey sent out by FRI to all its members in 2010, 14 said they had never received the DVD, and 22 mentioned they had used it to strengthen their own capacities. Some radio stations made copies of the Rice Advice DVD for farmer groups or members of a cooperative credit union. Others used the videos creatively, e.g. by using the audio tracks of the videos, which they had translated into their local language.

3.4.4 Private sector

The next issue was getting companies and organizations to understand how the DVD would look, feel and work. Many did not understand what was ‘on offer’ until they saw the finished DVD in

multiple languages all on one disc – at which point the question was, “Do you also have this for other crops?”

To support the dissemination, private companies were initially reluctant to attribute resources as it was not scheduled in their annual budget plan, or because they had no idea what the DVD would look like, or because they lacked the vision that supporting the dissemination to farmers was a route to reach out to potential customers. This may change as more and more companies realize that farming can be an area of growth for their business.

Most publicly funded organizations (including NGOs) and private companies offered to use their networks to distribute the DVDs as they could see the economic benefits to their partners – once they could really see what the end product was.

3.4.5 Television

Using either the English, French or local language versions of the rice videos, TV stations started to broadcast them in The Gambia (GRTV), Uganda (UBC), Guinea (RTG), Nigeria (the federal Nigerian Television Authority as well as the state-owned Broadcasting Service of Ekiti State), Burundi (Television Nationale du Burundi), Niger (Canal3 in Malanville), DR Congo (community television of Kinzau-Mvuete) and Central African Republic (Télévision Centrafricaine).

During a regional video training workshop in Bangladesh, in July 2011, one of the participants from the Ministry of Agriculture in Nepal decided to translate the rice videos made in Africa and broadcast them on the Nepal Television (NTV), using subtitles. This was done in *Krisakako Sarokar* (Farmer's Concern), a weekly program broadcast at 6:40 pm. The program was followed by call-ins. Later on, a Nepali voice over may be added and the videos distributed on VCD.

To give an indication of the growing importance of TV in agricultural extension, from 2005 to 2011 the number of TV stations in Bangladesh grew from three to 15, of which about five channels have agricultural programs.

In most countries, the model has changed from one national broadcaster to a mixture of state and private funding. Also radio stations increasingly move to TV broadcasting. With an increase in TV coverage across developing countries, the demand for quality agricultural video programs and need for capacity building is on the rise.

“In TV we have a weekly 30-minute programme called the Lima Time that is broadcast every Sunday on the National Broadcaster. The programme is in English. It highlights various aspects of agriculture including technical issues. The programme seems to reach mainly peri-urban farmers. In view of this weakness, the department has procured 10 audio visual mobile vans that have all studio facilities. They have been distributed in all the 9 provinces of Zambia, retaining one at HQ. The purpose of these vans is to produce farmer documentaries/ training materials and then conduct video shows. This however, has not successfully taken place because of inadequate financial resources and inability of the staff to produce these materials (need to build human capacity).”

Christopher Mbewe, Ministry of Agriculture and Cooperatives, Zambia

Community TV stations may be another option in future, although many seem to struggle with government license agreements, the same way community radio did in the past. In South Africa, for

instance, it has been a 7-year wait for the expected full-time community TV dispensation. Up until 2005, community-based TV and video groups have only been allowed to produce occasional one-month “special event licence” broadcasts (Batchelor *et al.*, 2005).

3.4.6 Film industry

India has an important film industry (Mumbai hosts Bollywood, whereas Tamil videos are made in Chennai). Also, Sri Lanka and to a lesser extent Bangladesh and Pakistan have their own film industry. In all South Asia there is a demand from people to watch entertainment videos, so there are millions of video CD (VCD) and DVD players in villages and as such opportunities for people to watch agricultural training videos.

After India, Nigeria has the biggest film industry (Nollywood). Burkina Faso equally has its own film industry, while a new industry is emerging in Kenya (Phil Malone, personal communication). Countries like Tanzania, have a regional television network and a strong independent film makers network, but both with limited developmental connections (Batchelor *et al.*, 2005). The film industry in Latin America is mainly concentrated in Brazil and Mexico.

Apart from creating conditions and a habit of watching videos in various village settings, the film industry and its related distribution network (from national entrepreneurs selling video discs to local video shacks) offers opportunities for distributing agricultural training videos. In 2008, AfricaRice approached the main entertainment video distributor in Benin to probe for their interest in distributing the rice videos, without luck. Knowing that farmers are willing to pay, and with an increased offer of quality training videos similar entrepreneurs may be tempted to play a more active role in disseminating agricultural videos in the future.

Although challenging for sure, linkages with the film distribution sector could be explored for distributing agricultural videos in countries like Brazil, South Africa, Tanzania, Nigeria and India.

3.4.7 Mobile phones

The Grameen Foundation has extracted video clips from the African rice videos and re-edited them into 3-minute clips for use on mobile phones by their network of community knowledge workers.

“These [sections of the rice videos] have been compressed into three minute videos, may not be as lovely as the original but getting them summarized is not a simple task.”

Annette Bogere, Grameen Foundation, Uganda

Now that their mobile applications are developed and their extension model is up and running, the Grameen Foundation is facing a new challenge, which is shared by many, namely where to find good content videos. There seems to be indeed a dire need for content. Only one respondent to our on-line survey mentioned having downloaded videos from YouTube for use in farmer training sessions. Most find YouTube videos difficult to download and watch them more for personal home consumption than actually use them to train farmers.

“I have downloaded videos from YouTube and used through projector in my ToF sessions and distributed in mobile phones of lead farmers to show them on the cell phones to the farmers in their FFS sessions. The videos were about the agricultural machinery in action such as cultivating of rice in lines, harvesting of rice, wheat, onion and etc., pruning of

apple trees, and some other videos from YouTube related to agriculture. All these videos were made by agriculturists around the world.”

Ahmed Fida Habibyar, Knowledge for Development Organization, Afghanistan

Various projects are experimenting with video on mobile phones. The University of Illinois is experimenting with a system whereby an expressed demand to solve a problem in a developing country is translated by people at the university into an animated cartoon. These are hosted on their website (<http://susdeviki.illinois.edu>) and downloadable for mobile phones.

Purdue University has a project funded by the Bill and Melinda Gates Foundation in ten African countries to create impact with an improved cowpea storage technology. The project developed video sketches for mobile phone use among other extension materials. Their video clips are about seven minutes long (<http://www.ag.purdue.edu/ipia/pics/Pages/Home.aspx>).

Although video for mobile applications is modern and sexy, and hence attracts quite a bit of donor and media attention, still:

- very few farmers in developing countries have mobile phones with video applications;
- the need for content remains as valid as for other video viewing methods;
- the type of information that can be presented is limited due to limitations in memory and screen display; and most importantly
- mobile phone viewing of video is individualistic, benefits mainly better-off farmers, and has reduced scope for group interactions.

3.4.8 Video viewing clubs

This is an analogy to earlier radio listener clubs. The method has been tested on a small scale in Ghana and Ivory Coast by IITA (David & Asamoah, 2011). In 2006, pilot video viewing clubs trained a total of 180 women farmers on cocoa ICPM through five videos on the following topics: pruning cocoa trees, controlling black pod disease through cultural practices and using fungicides, harvesting, pod breaking fermentation and drying.

The quality of the videos, as measured by farmers' satisfaction, no doubt had a positive effect on the learning process. Farmers were clearly encouraged by the testimonies given by farmers in the videos and by seeing other farmers carrying out the practices on their farms. Most participants highly appreciated the clarity of the technical messages and language used which suggests a positive outcome of involving farmers in the video development process (David & Asamoah, 2011).

Each club consisted of about 20 farmers led by a trained female facilitator, also a cocoa farmer from that community. All facilitators had at least 10 years of formal education. The project provided a video deck, a television, a small generator and fuel, but did not supply tools or pesticides during the pilot phase. Clubs met either weekly or biweekly in a variety of locations (homes, cocoa buying sheds and schools) to watch the videos and carried out field exercises in one participant's field.

Digital Green in India has opted for a more flexible model, whereby not the members of the clubs are fixed, but the village video moderator is. He or she receives a monthly payment to organize small group video viewings in their village four days a week. The location and people attending varies according to the subject of the video and demand of the people.

3.4.9 Special events

Farmers in Africa watched the rice videos during weddings and funerals, when people gather for a few days and the host arranges for a TV and video disc player.

The popularity of football in Africa and Latin America, and of cricket in South Asia, offers opportunities to show short agricultural training programs prior to the game is shown in village video shacks.

Various organizations also have special training events built in their on-going projects, in which they can easily include video as an additional training format.

“Here at CIAT, we have started working on the use of educational video to promote pest management tactics with small-scale fruit producers. This video is now shown to farmers in a range of local communities in something like “tardes de cine agricola”. We combine the showing of video with some hands-on activities promoted by an extension agent - where farmers can look at parasitic wasps through a stereoscope, learn about the production of home-made bait traps, etc.”

Kris Wyckhuys, CIAT, Colombia

3.4.10 Quality video enables multiple uses

Ideally, videos should entice multiple organizations to use them in multiple settings, facilitated or not, depending on the local context (Van Mele *et al.*, 2010a). Well-made videos can serve farmer organizations, extension services, radio broadcasters, and can be modified for use on mobile phones or in any other way. In terms of efficiency and scope to disseminate, it makes much more sense to translate one quality video into ten languages, rather than to completely reproduce the same video (or minor variations) in each single language.

3.5 Local language videos

The on-line survey revealed an almost unanimous agreement that farmer training videos have to be presented in the local language (Figure 3).

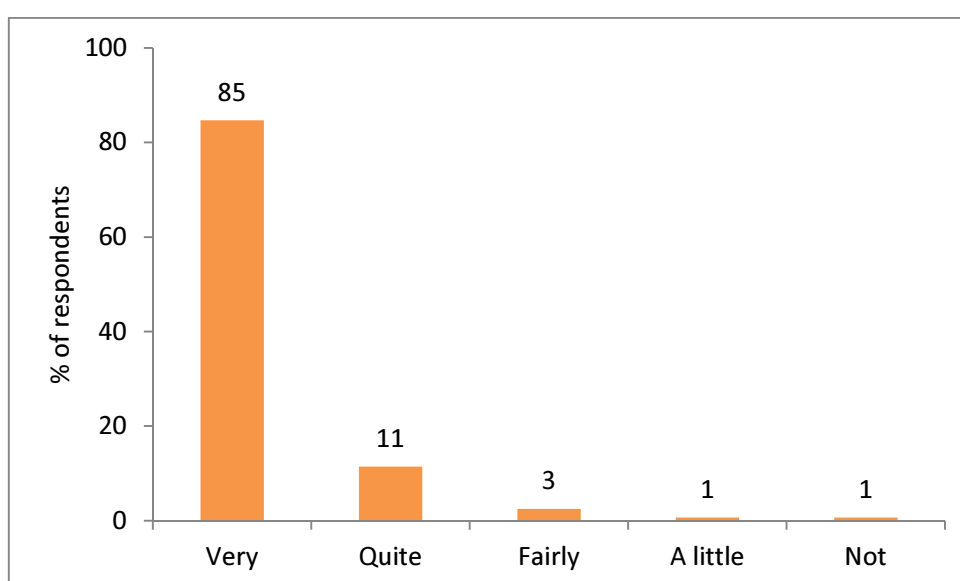


Figure 3. Perceived importance of local language training videos (n=438)

Although the importance of local language is obvious, videos do not have to be made directly in the local language, as this would imply an incredible duplication of efforts when scaling up. Digital Green uses storyboards as blue prints to produce many variations on the same topic, whereby only the dialogues differ. As the videos are made in the local language and there are no scripts, the outreach potential of a single video is limited to its initial language/context in which it has been produced. Without a script, translation becomes impossible and service providers who do not speak that local language only have the visuals (not the audio) to judge for its relevance in other contexts.

Drawing on the experience of bringing Asian videos into Africa, and recently also vice versa, English and French versions can be used as a first step to gauge for local interest before deciding on translating any video (Van Mele *et al.*, 2010b). Appealing to many organizations, the Bangladeshi rice seed health videos were quickly translated into Mandinka. Without understanding the language spoken, the visuals were already convincing farmers that the subject was of great interest to them. Subsequent local language versions boosted local dissemination and use of the videos.

Across Africa, many NGOs, development agencies, farmer organizations, national research and extension staff, as well as radio journalists and TV broadcasters became involved in the translation and national dissemination of the rice videos. By 2010, the rice videos had been translated into 37 African languages. The translation exercise in itself can offer a good opportunity for professionals from different backgrounds to work together.

3.6 Suitable length of training videos

There is no golden rule as to the ideal length of a video program, as much depends on the complexity of the topic. Although in Bangladesh some simple, 5-7-minutes training videos were made (Van Mele *et al.*, 2005a; Van Mele *et al.*, 2005b), when shown in Africa, farmers found them too short. Farmers, processors and facilitators seemed to appreciate more programs of ten to 15 minutes (Espérance Zossou, personal communication). The rice videos made by AfricaRice present more complex topics and take between ten and 19 minutes.

After rigorous research over the past three years, Digital Green in India decided that their farmer training videos should be around ten minutes (Rikin Ghandi, personal communication).

TV stations broadcast agricultural programs of specific lengths and formats. Being able to have one's training video broadcast on national TV depends on many factors. While in some countries TV stations ask for money, in others they are very happy to receive and broadcast quality video programs. In Bangladesh, both *Mati-o-Manush* (Channel i) and *Shamol Bangla* (Bengali Vision) are weekly agricultural programs lasting 30 minutes, of which ten minutes are commercials. In India, the national TV broadcasts *Krishi Darshan* (Vision of Agriculture) daily from 6 pm -7 pm. Every state also broadcasts its own agricultural program in the local language. In Punjab, there are two programs of half an hour that are telecasted from Monday to Friday from 6 pm to 7 pm. Mondays and Thursdays there is a live program during which farmers can ask questions by calling in. In Nepal, the agricultural TV broadcast allows for two blocks of fifteen minutes.

By building in clearly distinct sections in training videos (especially in longer ones), TV and radio broadcasters can more easily break down such videos into sections that fit the length and format of their program.

In Ghana, IITA staff and a group of farmer field school graduates made eight videos on integrated pest management in cocoa. The average duration of the video programs is 13 minutes. The longest is 25 minutes, which some farmers found too long (Sonii David, personal communication).

In sum, the most useful training videos are between 5 and 15 minutes.

The suitability of the length, however, also depends on the format. An ACIAR-funded project in Cambodia released a one-hour comedy in Khmer that has become very popular. They are about to release a 50-minute drama. Along the same vein, a radio soap program on integrated pest management in rice has become very popular in Vietnam over the past two decades. Although drama formats of agricultural programs can spread quickly within a country, none seem to have crossed borders. Their length may be one of the reasons for other countries not being interested in translating them.

3.7 Different formats of training videos

Farmers learn in multiple ways and appreciate different formats, so the web-based platform should cater for different formats. Some videos have a narrator with voice over along with farmer interviews (the interviewer isn't shown), others use a dialogue format between a farmer and an outside person, or short drama formats. Long dramas or soaps, however, may be more appropriate for national distribution than for regional or web-based distribution.

Currently, the bulk of agricultural videos on the web are success stories that show how well a project or organization has done; few offer good learning value for farmers. Such videos target mainly donors and already have an outlet via websites of the respective organizations and YouTube. Unless specific attention is paid to educational principles they will not be very suitable for training purposes.

"We have two types of learning videos: 'how to' guides that portray best farming practices on a specific crop or livestock farming method and then the success stories where farmers talk about the success they have gotten from this and the other information. Some of these are uploaded on our YouTube channel."

Karamagi Ednah, BROSDI, Uganda

Training videos hosted on the web-platform proposed in Section 7 of this report should at all times have a regional relevance. In order to be able to translate the videos into local languages, the videos should not be too long and a written script should be available. Drama is in general more specific per country and when it crosses borders it is never as popular as in their own country.

3.8 What topics do farmers prefer?

Priorities depend on past learning opportunities, key constraints, and so on. However, a current shift in donor attention towards food processing and marketing, may detract attention from securing or improving productivity. Farmers' first concern is to secure their food production, so new video programs should target this first. This was confirmed by the respondents, who listed videos on water management, crops and trees, and plant and soil health as key priorities (Table 4).

In Ghana, analyses of the information needs indicated that though smallholder rice farmers did not receive enough information on post-production (harvesting, marketing, processing and storage),

they deemed their need for information on pre-production (land preparation) and production (cultural practices) as priority (Parker Halm, 2010).

In Uganda, farmers preferred all types of rice information, ranging from land preparation to marketing and processing. However, they preferred that video shows be staggered appropriately e.g. shows on modes of planting, agronomic practices and varietal suitability should be done during planting season (Tumwekwase Ahabwe *et al.*, 2009).

As the survey focused on agriculture and with extension services in developing countries having separate institutions for agriculture and fisheries, this may explain why fisheries rated lowest.

Table 4. Priorities for future video productions (n=457)			
	Low (%)	Medium (%)	High (%)
Crops and trees	5	22	65
Water management	5	21	64
Plant health	4	25	60
Soil health	6	27	56
Farmer organizations	8	27	53
Livestock and fodder	4	31	51
Value chains	12	29	47
Food processing	10	31	45
Financial services	15	33	35
Fisheries	16	36	25

Videos dealing with: crops and trees; water management; plant health; soil health; livestock and fisheries would be best produced adhering to the zooming-in, zooming-out (ZIZO) approach whereby videos are made with inputs from experts and farmers who were involved in regional collaborative research and development (Figure 4).

The ZIZO approach leads to regionally relevant and locally appropriate videos (Van Mele, 2006, 2008, 2010). The remaining topics (value chains; farmer organizations; food processing and business and financial services) can be either made according to the ZIZO method, or be simple local illustrations of successful examples (without promoting projects or organizations).

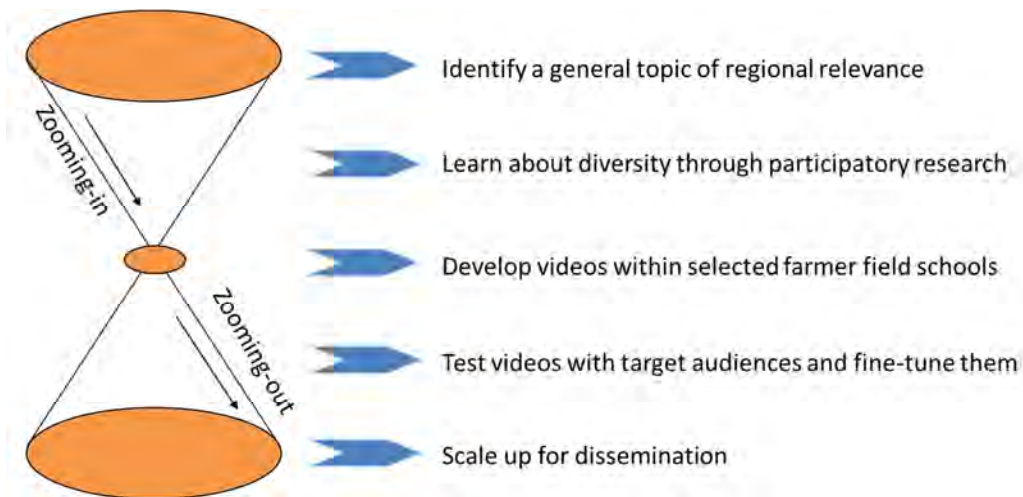


Figure 4. The zooming-in, zooming-out approach

3.9 Impact of training videos

In Bangladesh, video proved better than interpersonal farmer-to-farmer extension for conveying new scientific knowledge and local innovations. To test the videos' effectiveness and cultural relevance when scaling-up, researchers surveyed 1,252 resource-poor women in 12 districts. New technologies such as manual seed sorting and seed flotation with salt were adopted by 24% and 31%, respectively. More than 70% of the women who had seen the videos improved their seed drying. To deter storage insects, the use of botanicals such as neem increased from 9% to 67% (Figure 5), while 91% of the women learned how to expel air from their storage container. No changes were observed in the control villages (Van Mele *et al.*, 2007).

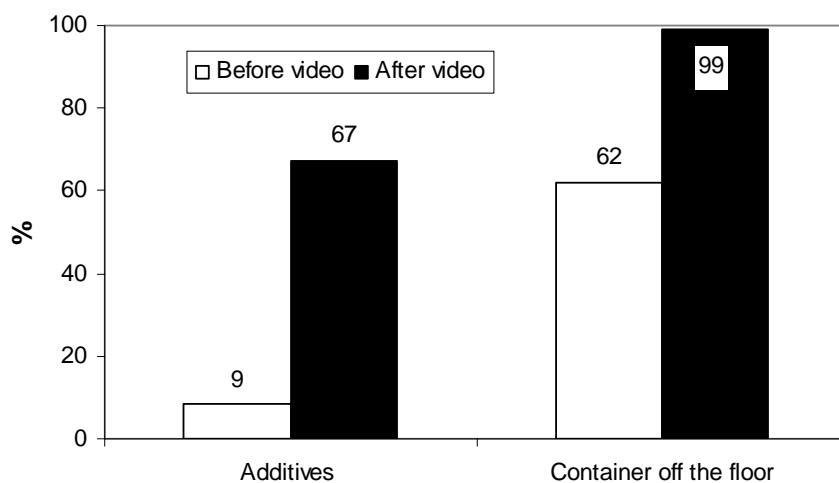


Figure 5. Changes in use of botanicals and placement of seed storage container after women in Bangladesh watched videos (n= 1077).

By the end of 2005, a year after the videos were launched, the number of farmers reached was of the order of 130,000. A conservative estimate of the first year gain of the video project was at least 17 times the total investment cost (Van Mele *et al.*, 2007).

Video-mediated group learning also stimulated reciprocal sharing of new knowledge and skills between women, other farmers and service providers. Rice yields increased by 15%, which improved the women’s social and economic status and intra-household decision-making (Figure 6). Over 20% of the households attained rice self-sufficiency, with no changes observed in control villages (Chowdhury *et al.*, 2011).

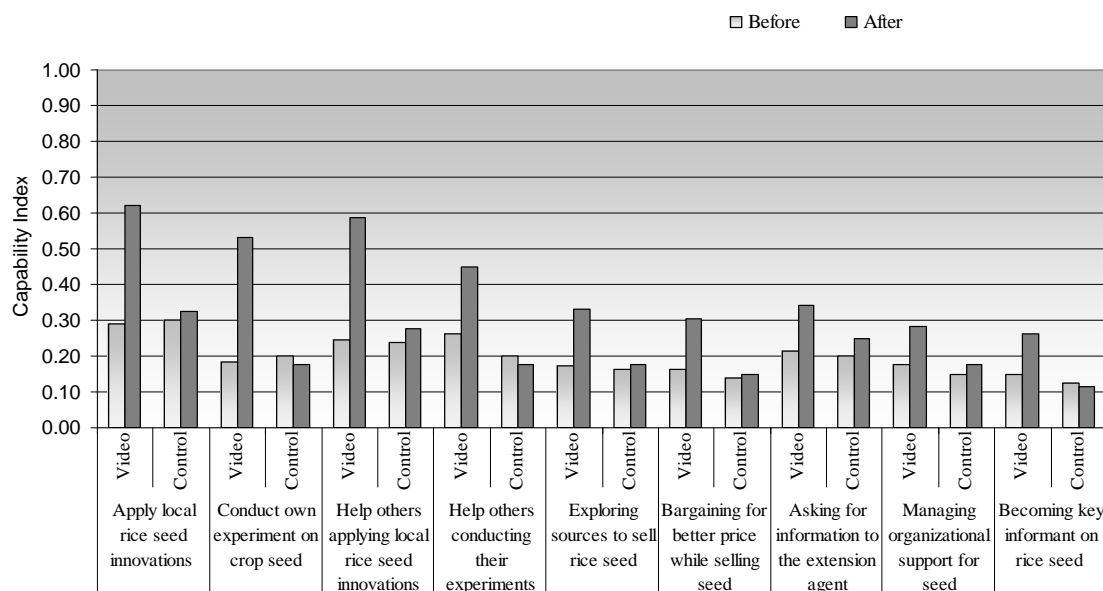


Figure 6. Changes in human and social capitals after women watched videos (n=180)

Watching a series of quality training videos on rice seed and seedling management also had a direct impact on farmers’ yields in Bangladesh, whereas in Benin a video on rice parboiling improved the quality of the end-product after which women were able to obtain a better price for their produce on the local market (Table 5).

Table 5. Changes in rice yield and price per kg of parboiled rice after watching videos

Rice video modules	Video villages		Control villages	
	Before	After	Before	After
Seed management ¹	4593 kg/ha	5265 kg/ha	4667 kg/ha	4678 kg/ha
	Yield increase of 15%		Non-significant change	
Rice quality and parboiling ²	US\$ 0.55	US\$ 0.74	US\$ 0.63	US\$ 0.64
	Price increase of 35%		Non-significant change	

Source: ¹Chowdhury *et al.*, 2011; ² Zossou, 2009, unpublished data.

In Benin, the video on rice parboiling reached more women (74%) than conventional training (27%). The conventional training was biased by participant selection, stakes in per diem payment and monopoly by the elite class. Video helped to overcome local power structures. The changes in price per kg parboiled rice obtained was the result of a number of adoptions of improved practices, which ranged between 70 and 100% (Table 6) (Zossou *et al.*, 2009a, b).

Table 6. Changes in rice parboiling practices after watching video in Benin (n=200)

	Conventional training only (n=32)	Video only (n=83)	Video + conventional training (n=13)	Information from colleague (n=34)	No information on the technology (n=38)
Remove dirt from rice	96.9	100.0	100.0	91.2	15.8
Wash rice 2 to 3 times	96.9	100.0	100.0	88.2	15.8
Innovate with parboiling by steam	18.7	72.3	92.3	14.7	0.0
Reduce vapour loss	21.9	86.7	92.3	14.7	0.0
Dry rice on tarpaulins	59.4	98.8	100.0	79.4	18.4
Remove shoes when turning the paddy over	40.6	96.4	100.0	70.6	0.0



Across countries, crops often have common plant health issues and solutions.



Learning from herders is crucial to develop integrated tree-crop-animal systems in fragile dryland areas.

4 Models of producing and disseminating farmer training videos

4.1 Video production models

Many respondents said that videos were most effective when farmers presented and demonstrated good practices rather than experts. Taking this as a basis, various types of farmer-to-farmer training videos can be identified. Although all build in technical content checks, different styles and different types of engagement of farmers, technical staff and communication professionals have led to quite distinct video formats. We have limited ourselves to three distinct, well-documented types of farmer-to-farmer video and added a fourth type of video found on YouTube (Table 7).

4.1.1 Agro-Insight

Videos made according to the Agro-Insight style use a well-researched script with a voice over narrator and a selection of farmer interviews. Videos are preferably made with graduates from farmer field schools (FFS). Underlying principles of technologies are explained and illustrated by local examples, using good quality close ups, simple graphics or analogy whenever needed. Collective action is shown as much as possible (<http://agroinsight.com/resources.php>).

4.1.2 STCP cocoa

The cocoa IPM videos made under the Sustainable Tree Crops Program (STCP) have more a drama-type of format combined with technical sections shown by FFS farmers who were trained to make a video based on a storyboard (<http://www.treecrops.org/links/trainingmaterial.asp>).

4.1.3 Digital Green

The Digital Green videos use a dialogue format whereby an extension agent visits a progressive farmer, adhering to a storyboard. As distribution of the videos mainly takes place at the district level, many similar videos can be produced in slightly different contexts (http://www.digitalgreen.org/analytics/video_module/?geog=country&id=1).

4.1.4 Kenyan farmer

The fourth type of video was produced in 2005 by the Earthwatch Institute. It shows a trained Kenyan farmer who explains and shows principles of soil fertility, land and water conservation (<http://www.youtube.com/watch?v=mMapNsmGuAo>).

Organizations working with storyboards do not have scripts of the videos that are produced. Although it may look faster and less complicated at first to develop a video in ‘a simple participatory’ way, in reality there is only a slight difference in time (at first) with scripted video. However, when one wants to subsequently share the videos with farmers speaking other languages, the unscripted, storyboard approach becomes a huge challenge as one has to sit down and transcribe all word by word, then translate it into English before having it translated by someone else in the desired local language. At this stage unscripted video will require more time and investment than scripted ones.

Table 7. Comparison of various production models of farmer-to-farmer training videos

	Agro-Insight	STCP cocoa	Digital Green	Kenyan farmer
<i>Video production</i>				
Script development	<p>Following the zooming-in, zooming-out approach (Van Mele, 2006), topics are identified based on farmers' learning needs and experiences of working with farmers in multiple sites and countries</p> <p>Script written with regional focus in mind and with separate input and feedback mechanisms for scientists, service providers and farmers</p>	<p>Key modules identified based on knowledge of learning needs after having had FFS on the subject in multiple sites and countries</p> <p>Storyboard developed based on a logical sequence of modules described in technical manual and with farmer field school farmers</p> <p>Script developed afterwards to allow translations into other languages</p>	<p>Initial ideas prioritised by DG team, based on interaction with and feedback from local NGO partners</p> <p>Storyboard developed with farmers in local language</p> <p>The same storyboard is used in multiple sites and dialogues are adjusted, so many videos are made on the same subject with little variations</p>	Probably developed a script
Concept	Empowered farmer groups (through FFS or other ways) are targeted as key resource to collaborate in production and review	FFS groups are source	Either an extension worker explains 'how to do' to a farmer; some farmers working with partner NGOs come forward as they are thrilled to appear on TV	An experienced farmer who has learned various new techniques explains and shows how he has applied these techniques in short sessions
Format	Structured, with voice over and farmer interviews; attention to discovery learning	Structured, with voice over and farmer; mix of training format and soap	Training format, no voice over, trainer and farmer talk throughout	Training format, only the farmer talks
Gender focus	<p>Targeted and balanced in terms of farmer interviews, also with regard to generation differences</p> <p>Gender implications of technologies are presented</p>	Targeted and balanced	<p>27% of videos feature women</p> <p>Focus is on technologies, not on their gender implications</p>	<p>One man explains all</p> <p>No information given on social implications of technologies</p>
Group focus	Interactions between farmers are shown and explained	Members of farmer field schools present their learning	10% of videos are with groups, 3% with family, the rest with individuals	A single farmer features throughout series
Farmers film themselves	no	yes	Either video professionals, trained NGO staff or community resource people	no
Attention to quality of video	yes	yes	To a limited extent	yes
Professional video support	Yes, during training	Yes, during training and for post-production	limited	yes
Time required to make a film	6-12 days, depending on complexity of topic, availability of reports describing local knowledge and practices, and location of filming sites	7 days once FFS farmers are trained in video production and editing (which takes two weeks)	8 days	Not available

	Agro-Insight	STCP cocoa	Digital Green	Kenyan farmer
Length of modules	6-19 min average 11 min	9-26 min average 14 min	4-15 min average 9 min	1-1.5 min
Scripts available	yes	yes	no	unclear if they exist
<i>Post-production</i>				
Translations	Involving national scientists and local media professionals	Probably local radio station (needs confirmation)	no	no
Local language versions	40 African languages and Bengali	Twi, Swahili and Liberian English	12 Indian languages, although each video only available in one language	Swahili
Subtitles	no	English or French	no	English subtitles

4.2 Video dissemination models

Since a global web-based platform is for sharing farmer training videos across countries and continents, the study also compared the dissemination models of the different types of videos (Table 8). The way in which videos are conceived determines to a large extent their scalability.

Table 8. Comparison of various dissemination models of farmer-to-farmer training videos¹

	Agro-Insight	STCP cocoa	Digital Green
<i>Dissemination and viewing</i>			
Overall model	Initial project push to share videos with as many organizations as possible, after which quality levers further unplanned, dissemination. Many organizations spontaneously share the videos within their own network	Project-based	Project-based, no evidence of non-partners using videos for farmer training
Funds	Public, while public-private partnerships explored with banks and mobile phone companies	Public	Public; looking into possibilities to get private advertisements to pay for scaling up
Distribution	Web, VCD, DVD and via rural radio network	Web, VCD and DVD	Initially web and DVD, but now with battery operated pico-projectors to screen 27-30 inch videos to small groups of farmers on a weekly basis. They have 2 GB internal memory and an expandable microSD card to store and exchange videos
Equipment	Not provided	Provided to video viewing clubs	Basic sets of camera and battery operated pico-projectors provided to each village
Viewing	In many countries and settings by multiple farmer organizations and intermediaries, including projects, rural radios and national TV stations	Organized video viewing clubs	In many villages and different settings, upon farmers demand, organized by paid community resource people four times per week

	Agro-Insight	STCP cocoa	Digital Green
Cost of viewing	In Bangladesh, using low cost VCD dissemination channels, cost per farmer trained came down to 0.38 US\$ (Van Mele <i>et al.</i> , 2007)	1853 US\$ per club for weekly to biweekly viewings of eleven videos for six months, or 78\$ per farmer, which is comparative to the cost of an FFS (Muilerman & David, 2011)	Including salary of community resource people and purchase of equipment, the costs averaged 630 US\$ per village per year (DG power point)
Facilitation	Optional; at times farmers facilitate, or NGO staff or extension workers. Quality of video allows for non-facilitated viewing or broadcasting on TV	Needed; all facilitators had at least 10 years of formal education	NGO staff that already worked with the communities or village volunteers
Hand over videos to communities	Yes, but needed project to facilitate; in Bangladesh this resulted in villagers organizing their own events. Each VCD triggered changes in the knowledge and practices of about 200 farmers (Van Mele <i>et al.</i> , 2007)	Yes	Repositories of locally made videos available at partner organization at district level, and smaller selection with the community resource people
Farmers reached	130,000 farmers in Bangladesh (2003-2005) 160,000 African farmers through group-based viewing and many more via radio and TV broadcasts using the same videos (2006-2009)	864 farmers in Ghana and 142 in Ivory Coast (2006-2008)	61,000 farmers in India (2008-2011)
Farmers' willingness to pay	Farmers in Benin bought VCD for 1-2US\$ In Uganda, men were willing to pay USh500 (0.2US\$) for one-hour rice video show, while women suggested USh100 (0.04 US\$) (Tumwekwase Ahabwe <i>et al.</i> , 2009)	Project intends to explore willingness to pay for viewing, but not yet happening	Viewers contribute Rs. 2-4 (0.05 – 0.1 USD) per screening
M&E			
Monitoring	Due to scale and nature of dissemination the focus was on distribution by giving a standardized page to all who received a VCD or DVD, with an annual follow up Feedback from farmers on viewing was collected via specific projects using the videos	Anecdotal	Video production and shows monitored and analytics hosted on web Weekly collection of feedback on viewing by paid village community workers
Evaluation	The dissemination and to a lesser extent the viewing models were continuously researched Various quantitative and qualitative methods tested and fine-tuned from a livelihoods and innovation perspective	Fixed viewing model assessed by formal survey on a few communities	The viewing model was continuously researched Adoption study in eight video and eight control villages
Impact	Changes in human, social, natural and institutional capital (Zossou <i>et al.</i> , 2009b; Van Mele <i>et al.</i> , 2010a; Zossou <i>et al.</i> , 2010; Chowdhury <i>et al.</i> , 2011)	Changes in knowledge and practices (Dji <i>et al.</i> , 2010; David & Asamoah, 2011)	Changes in knowledge and practices (Gandhi <i>et al.</i> , 2009)

¹There was no information on the "Kenyan farmer" video listed in Table 8, as distribution was web-based only

From an innovation system perspective, having videos that serve or are used by many (known and unknown) service providers is a great achievement. It also means there is a need to “let go” and that monitoring of the spontaneous dissemination and use of video discs at a global scale will always be an approximation that depends on people’s willingness to provide feedback as they have neither ties nor accountability to the project trying to monitor the video use.

Monitoring video use is possible, as shown by Digital Green and AfricaRice, but keeping track of videos that reach farmers in off-line modus implies huge monitoring challenges.

“It is very difficult, as you can imagine, monitoring the use of the videos by other organizations. Currently, I am aware of the following organizations (outside of STCP and partners) who use them: Technoserve Tanzania (translated into Swahili); Armajaro Ltd (a cocoa buying company for use in Nigeria and Ghana) and ECHOES/Winrock International (a private sector funded project in Ghana)”

Sonii David, IITA, Ghana

Future efforts to stimulate a global exchange of farmer training videos may include a mix of the above-mentioned types of videos, and elements of the various models, keeping in mind all the pros and cons. Before presenting some scenarios as to how a web-based exchange platform might take shape (Section 7), let us take a closer look at the range of agricultural training videos available on the internet and explore who should be the target of such a platform.

5 Agricultural videos on the internet

Literature, surveys conducted by AfricaRice on gender and media in nine African countries, and results from the on-line survey suggests that very few farmers in developing countries use the internet, whereas extension service providers do access the internet in search for quality training materials, information and networking. Knowing who uses which ICT technologies is crucial as the intention and capacities of the people deploying them are key to the success of any ICT4Development intervention, as illustrated by the following quote.

“As we conducted research projects in multiple domains (education, microfinance, agriculture, health care) and with various technologies (PCs, mobile phones, custom-designed electronics), a pattern, having little to do with the technologies themselves, emerged. In every one of our projects, a technology’s effects were wholly dependent on the intention and capacity of the people handling it.”

Kentaro Toyama, University of California (2010)

5.1 Internet use by farmers

In Ghana, only nine of the 200 rice farmers interviewed had used the internet before, four had used it on their own, while five had used it with assistance. They used it for social networking, marketing their produce and accessing news. Only one farmer used the internet to obtain information on rice (Parker Halm, 2010).

Various national and international organizations have funded telecentres in Africa. In Tanzania, farmers do not use and benefit from the potential that is offered by telecentres in terms of information access. Most users are students, and civil servants working at district headquarters.

Most people living in rural have trouble reading and writing, let along using ICTs. A lot of web-based information resources are in foreign languages not understood by local communities. From 2007, the FADECO centre in Karagwe district has moved away from internet services to community radio services. They repackage information into radio programs broadcast in Kiswahili. Overall, other radio stations and television were more preferred to community radio because of their wide coverage and good programs. Telecentres should provide more information relevant to people’s needs and in different formats (Mtega & Malekani, 2009).

The telecentre concept has received a lot of attention among international development communities, public and private telecom service providers, and national Governments. Numerous pilot projects have been implemented in Ghana, Mozambique, Uganda, Benin, South Africa, Rwanda, Tanzania, Zambia, Malawi and Zimbabwe. There has been a tendency for well-wishing government officials, international agencies, and NGOs to assume that ICT implementation is focused on “a computer in every village”, scattering of “information kiosks” throughout the nation, and “universal computer-based education” (Keniston & Kumar, 2003) quoted by (Pade *et al.*, 2005).

But even though some pilot projects may have successfully implemented local language databases and search functions adjusted for illiterate people, this quickly becomes unrealistic in the long run. While the initial hype around ICTs for direct use by farmers has since subdued, there is a need to shift the discussion around ICTs from one of more coverage to that of better and more meaningful use of ICTs for innovation management (Sulaiman *et al.*, 2011b). Focusing on intermediary users (and how they can interact and assume different roles), rather than on end-users seems a much more sensible approach.

5.2 Internet use by intermediaries

From our on-line survey, 21% of the respondents said they never used the internet to search for agricultural videos (Figure 7). Most people searched the web for agricultural videos seldom to occasionally. This is not surprising given that very few quality agricultural training videos are available.

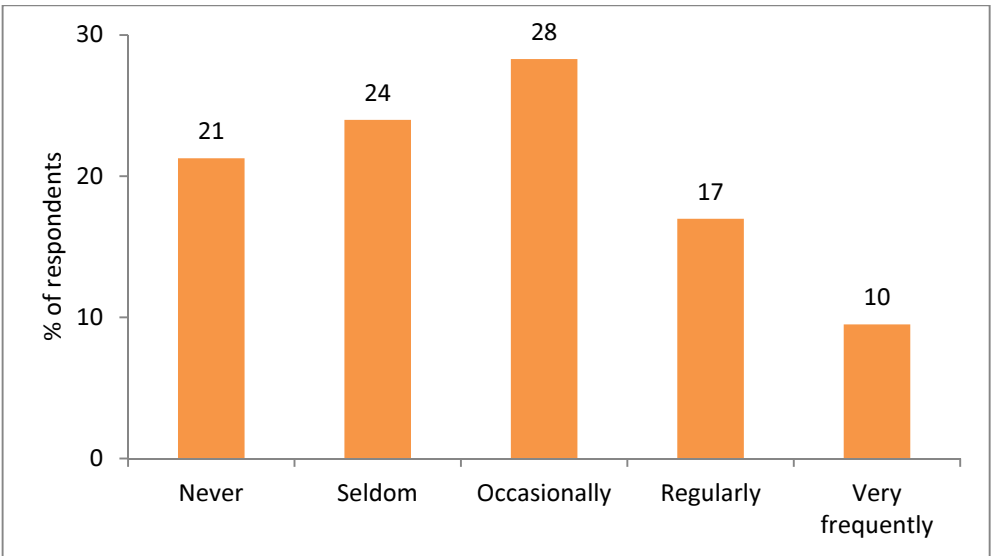


Figure 7. Frequency of people searching the web for agricultural training videos (n=442)

To the question which websites people visited, sites of FAO, CTA and CGIAR Centres were the most commonly mentioned (albeit each by less than 5%). Many respondents had no clear target as to where to look for videos and those who used Google or YouTube to guide their search mainly did so to get new ideas themselves rather than to download the videos to show to farmers.

The response from staff from national extension services to our on-line survey was relatively low, partly reflecting differences in infrastructure and equipment. Whereas staff at national research stations and universities often has access to a computer and the internet, this is not the case for extension workers who often rely on public internet cafés. Contrary to researchers and academics, they pay for air time out of their own pocket.

In nine states of the Niger Delta Region in Nigeria, 32% of the public and private extension workers (n=87) downloaded vital information from the internet. Most respondents were between 40 and 45 years old and had an MSc degree (Adesope *et al.*, 2007).

In five states in South-eastern Nigeria, about 81% of female researchers and 59% of female extensionists travelled on average 13 km to public cybercafés because their office computers are not connected to the Internet. Female extensionists spent an average of 4.4 hours on ICT weekly. About 70% of female extensionists and 44% of female researchers spent 5-8 hours on ICT weekly, for this (Adebayo & Adesope, 2007).

Although India is one of the more advanced countries in ICT for development, the director of Digital Green believes that a web-based platform for farmer-to-farmer video sharing should mainly target extension service providers, not farmers directly.

"There have been a few farmers (mostly, progressive or urban) who have accessed our videos over the Internet and have anecdotally said that there has been value. Our work has largely been geared toward supporting extension service providers... We still think that mediation and social organization are critical components in determining the effectiveness of the videos among farming communities."

Rikin Gandhi, Digital Green, India

"This web-based platform for video will help the viewing centres at the rural level and also the radio will be able to make more impact on rural farmers."

Adamu Musa Okonkwo, Gombe Media Corporation, Nigeria

Many people indicated limited internet access and poor bandwidth as key constraints, with a few mentioning political restrictions on social media. For maximum impact both internet access and bandwidth are key issues that will need to be addressed through improved networking between organizations and physical sharing of video discs.

"The main problem is that download speeds for us and many others in Tanzania are generally so slow that it is really difficult / impossible to download video from whatever source. I'm hoping this will change as the technology improves and gets cheaper (we pay per MB/GB) but currently our download speeds are of the order of 10kbps - 50kbps, or perhaps half an hour for a 5 min clip. Often it just times out and quits."

Michael Farrelly, Tanzania Organic Agriculture Movement

“Reason to download is that the streaming capacity in most developing countries is too slow to watch, so first download and then play again.”

Kevin D. Gallagher, FAO Pakistan

“Many developing countries have low speed internet access because of poor infrastructure or political barriers created by authorities. Many websites in some developing countries have been filtered; this includes YouTube, face-book, etc. I recommend distributing CDs and DVDs along with online access, to these developing countries.”

Esmail Karamidehkordi, Zanjan University, Iran

5.3 Is YouTube doing the job?

YouTube hosts a wide selection of videos from many agencies and individuals. Although various hobbyists and extension professionals from the USA and Australia have uploaded their own videos, I haven't come across even one from a farmer in a developing country.

Many agricultural projects have their videos hosted on their YouTube channel, but after having watched one video and following links to suggested related videos, within one or two clicks one is completely removed from anything related to agriculture. YouTube is overloaded and this seriously affects people's search behaviour. A Google search on “video” and “soil fertility” yielded 640,000 hits. Narrowing down and adding “Africa” still leaves one with 294,000 hits.

Videos in YouTube are often poorly tagged or untagged and so searches look mainly at words appearing in the title. A search for “rice” and “Africa” yielded 1730 videos. The first 100 hits included mainly ‘talking heads’ of various organizations, cooking programs, such as ‘How to cook *Thiebou Dienn - Riz gras*’, the plea for help videos ‘Please Donate Rice to Haiti and Africa’, opinion or advocacy-related videos, such as ‘Outsourcing Agriculture to Africa Part 1/2’ and an occasional farmer featuring in a donor video describing the food crisis. On page 6 (roughly video number 125) the first farmer training video features. Following this lead takes us to the IIRI videos, most of which are ‘show the project’ videos, scientists talking, field visits and important events. This is a common trend on websites of international organizations, although the interest in developing videos for farmers seems to be gaining momentum. Finding a good farmer training video is difficult.

One in six respondents said they have used YouTube or Google to find agricultural videos, but often they cannot find what they are looking for or are easily distracted by the overload of irrelevant videos.

“Sincerely, I have to tell you that with Google I have not found the videos that I had expected to find. The proposed initiative on sustainable agriculture is really an opportunity for farmers.”

Thierry Metre, Villages Cobaye asbl, DR Congo

Web searches by intermediaries are mainly to get general ideas for themselves, but few have actually downloaded videos to use in their farmer training sessions.

“As per farmers, most of time using YouTube online is very difficult due to the weakness of the internet connection. YouTube movies in case of absence of internet connection

need to be viewed directly as mpeg or avi or other format. This needs software for downloading and file conversion that takes a lot of time, and then needs a good movie viewer such as videoLan.”

Toufic El Asmar, FAO, Rome

“I have viewed many agricultural videos in YouTube no doubt they were interesting. But I found that they were not relevant to the conditions of the farmers where I am involved in capacity building.”

A. Thimmaiah, National Organic Program, Bhutan

5.4 Other initiatives hosting agricultural videos

FAO. Various organizations such as FAO have created on-line repositories of agricultural information materials, including video. The videos listed are all of broadcast quality and can be requested by sending an email to the FAO Information Division. Only a few of the videos can be watched and none can be downloaded (<http://www.fao.org/videocatalogue>).

FAO also has a YouTube channel that contains 242 videos. Most are impact stories of FAO projects, or speeches at conferences, not intended to train farmers (<http://www.youtube.com/user/FAOVideo>).

More recently FAO established TECA (Technologies for Agriculture) to improve access to knowledge sharing about proven technologies for small-producers. The TECA platform is based on an open-source content management system (Drupal) that allows the use of different web tools (exchange groups, comments, rating, forum, videos, audios, etc.). Besides the web tools, the platform also hosts an online repository with more than 800 technologies from FAO and international partners. The material is easy to interpret for those who work directly with small-producers in rural areas. Most is in PDF format and only 23 are links to videos (of which half refer to AfricaRice videos). Videos are not presented, but short descriptions given, along with key words and links to website where they can be watched (<http://teca.fao.org/home>).

The Water Channel. This site contains a wide range of different format videos dealing with soil and water conservation. It is not clear how one can download. One can register to upload videos. There is no indication of a quality control mechanism to verify content before uploading. The site hosts 804 videos in 29 categories, of which 84 videos deal with agriculture (in fact some are power point presentations). A smaller selection of these deal with developing country agriculture, again many are showcases of projects, not intended for farmer training (<http://www.thewaterchannel.tv/en/videos/categories/viewcategory/12/agriculture>).

The Technical Centre for Agricultural and Rural Co-operation (CTA) works towards improving the dissemination of information for the benefit of farmers through improved adoption of new technologies in ACP (African, Caribbean and Pacific) countries. Their website hosts 357 videos, most of which are documentaries and interviews. One of the most popular and inspiring videos is a 25-min documentary that introduces the practice of participatory spatial information management and communication (PGIS) in the development context (<http://vimeo.com/ctavideo>).

Practical Action is a charity with headquarters in UK and country/regional offices in Bangladesh, Nepal, Sri Lanka, Kenya, Sudan, Zimbabwe, and Peru. It has supported knowledge sharing about

appropriate technologies in developing countries since 1968. The current project Practical Answers is the continuation of cooperation with partners in Asia, Africa, and Latin America in fostering the creation and dissemination of knowledge materials (<http://practicalaction.org/practicalanswers>).

This lists 21 so-called videos, mainly on food processing and construction. However, most are power point presentations with Sinhala language voice over, or English. Only about five are actual videos. One is quite interesting on vegetable drying and preservation, but still interspersed with slides full of text. The presenter is a scientist disguised as a farmer.

Their website is rich in technical leaflets and manuals for pro-poor development. The leaflets are a grounded source that can serve as a starting point to develop video scripts.

Digital Green is an India-based project initiated by Microsoft Research and run with support from the Bill and Melinda Gates Foundation.

Video production. DG produces videos that are instructional in nature, mainly recordings of demonstrations that are made when an extension agent is teaching farmers a new technique, or vice versa. Most videos could be made quite a bit shorter.

Following a check for technical content, video editors check for the accuracy, clarity, and completeness of the content. Where content is missing, they send content producers back into the field to gather missing footage. A title and metadata, such as tags for language and thematic category, are added for indexing into a database.

Video use. The videos were initially mailed as DVDs or directly uploaded, if adequate bandwidth is available, on to a searchable Internet database that makes the content available for public use (Gandhi *et al.*, 2009). Currently, locally-produced videos are stored at district level on SD memory cards for use by paid community facilitators. For scaling up at the international level it seems unrealistic to train community people and provide basic video viewing equipment in all villages. One has to let it go at some stage and let people and services organize themselves, use their own creativity in mobilizing resources to watch agricultural training videos.

Monitoring. One of the biggest assets of Digital Green is that it has established a good user-interface and monitoring system to assess video downloads and views (e.g. Disseminations per Practice http://www.digitalgreen.org/analytics/screening_module/?geog=country&id=1). This also includes space for listing questions asked by farmers, recorded by trained community-based facilitators. The feasibility to collect this type of feedback beyond immediate project partners should be explored in future.

The type and number of questions asked (e.g. 59 questions are listed on the cauliflower seedbed video <http://digitalgreen.org/analytics/video/?id=1000000019282>) show that a lot of information is missing and that most questions could have been avoided if some time had been invested in script research. It is inherent to the video production process chosen by Digital Green. The large number of 'why' questions also indicate that the videos are mostly prescriptive and that underlying scientific principles, or reasons why a certain technology works under a given condition, are insufficiently addressed.

Potential. Apart from offering an excellent experimental ground on structuring and monitoring a web-based platform, the videos along with the statistics and farmer feedback could offer a good starting point to make decisions for better quality scripted videos that will be suited for global sharing and use by a wide range of service providers. The most popular videos so far appeared from following classes: animal care; seed treatments; herbal medicine; compost and soil; fodder conservation and success stories.

5.5 Audio-sharing websites

WRENmedia (www.wrenmedia.co.uk) produces the online magazine *New Agriculturist* since 1998. The magazine covers agricultural and rural development/livelihood issues, both policy and technical, relating specifically to developing countries. Whilst many articles are researched and written by the WRENmedia team, some are written collaboratively with scientists and development practitioners and others are contributed by an international team of freelance science writers. A network of southern print correspondents provides news and feature articles for the magazine, as part of WRENmedia's capacity building programme for better science reporting. The English version of *New Agriculturist* is produced on a CD-Rom each year and sent out to those without good access to the internet. The first edition of *New Agriculturist* in French (www.new-ag.info/fr/index.php) was launched at the end of April 2011.

For 15 years, WRENmedia has also produced Agfax, a monthly radio service for Africa with an emphasis on agricultural science and innovation. Interviews and features are commissioned from a network of 21 trained and motivated local journalists, some of whom have shown interest in becoming bi or multi-media and could be trained to develop video scripts. Millions of listeners in Africa tune in to Agfax audio, which are broadcast by a network of 80 radio stations across the continent. Reporting 'from the field' is a challenge for many African journalists, because of resource constraints. By sharing experiences from one country to another, Agfax helps to foster development across the continent. The website hosts downloadable audio files, along with full transcripts in Word or PDF format (<http://www.agfax.net>).

CTA has produced five Rural Radio Resource Packs on a variety of topics related to agriculture and rural development since 1991, but it stopped doing so about two years ago. Each pack contained about ten 3-6-minute audio files to be re-packaged and broadcast by local radio stations in African, Caribbean and Pacific countries (ACP). Additional technical information was provided along with transcripts of the radio programs. The archives remain accessible but no new content is produced (<http://ruralradio.cta.int>).

6 Feasibility of web-based platform for video sharing

6.1 The need for a new web-based platform

Considering that there is no real authoritative website where people can turn to for watching and downloading agricultural training videos, most respondents to the on-line survey perceived the proposition to establish a new web-based platform as very useful (Figure 8).

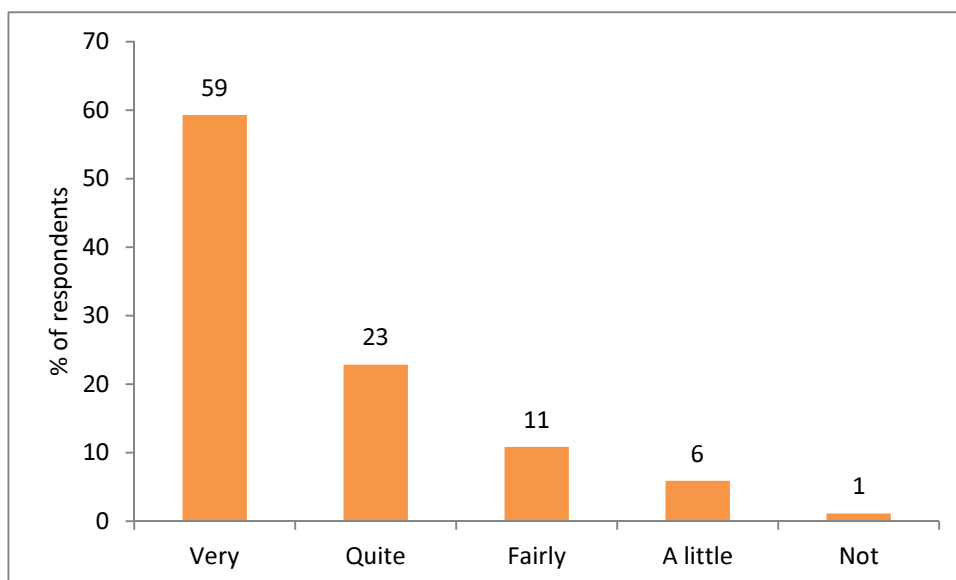


Figure 8. Perceived usefulness to establish a web-based platform for agricultural videos (n=442)

From the SAI Platform respondents from eight companies already expressed the need and eagerness to collaborate in the development of a new web-based platform to share agricultural training videos. These included: AMSA, 3F Oil Palm Agrotech Pvt Ltd, General Mills, Kellogg Company, McDonald's Europe, Nestec, Nestlé and PepsiCo International.

Some of the respondents who found it a little useful had either interpreted the question differently, in that they thought the web-based platform was targeting farmers directly; or questioned the long-term sustainability of the platform.

“If done, then aim it at trainers not farmers. Farmers tend not to have the means, nor the time, nor the money or the inclination to go online and browse for videos.”

Michiel Kuit, DE Foundation

“Be sure that this thing runs continuously and not only for a period a donor provides money. If it is built on the latter, I recommend not to open a new one, but rather to provide links to those who already exist.”

Hans Schaltenbrand, SHL, Swiss College of Agriculture

Quite a few reservations on the usefulness of a web-based platform also related to slow internet connection in developing countries. Solutions, such as streaming technology, are available, but to have maximum impact off-line, physical distribution mechanisms will need to be established at sub-

regional and national levels. This again emphasizes the need to invest in organizational networking on top of capacity building in quality content development and a simple web interface.

“Keep it simple, use links or streaming technology, have excellent search engine.”

Jan Kees Vis, Unilever

“To make it simple, effective and not overloaded with western induced value approaches to teach the world.”

Hans Jöhr, Nestec

“For low rate of access to internet, we need to provide CDs and DVDs to countries with this limitation.”

Esmail Karamidehkordi, Zanjan University, Iran

“The main problem is we cannot access YouTube and similar video sites from our institute as it is banned. Hope your efforts towards creating the global web portal may help the whole rice community.”

Manjunath Prasad, Indian Agricultural Research Institute, India

6.2 Proposed content of a web-based platform

Most people who responded to the on-line survey felt that the web-based platform should cater to different types of content, with a prime focus on agricultural technologies, and post-harvest, followed by methodological and organizational aspects (Table 9).

Table 9. Priority content for a new web-based platform for farmer training videos (n=442)		
	Yes (%)	No (%)
Agricultural technologies	94	2
Post-harvest and processing	87	5
Methods (FFS, PVS,...)	85	7
Organizational (credit, markets,...)	77	11
Opinion-sharing and advocacy	69	16

The survey sparked disagreement about opinion-sharing and advocacy in videos, with 16 percent of the people explicitly saying no to it. As no one really considered the web-based platform to be directly used by farmers, opinion sharing was at times interpreted as a type of a discussion forum whereby users of the platform could exchange experiences on how they had used the videos.

Quite a few initiatives, D-groups and so on already exist to discuss opinions on agricultural development. As an increasing number of organizations also host videos advocating their own work

and philosophy, the newly proposed web-based platform should focus on what is not yet provided by anyone, namely agricultural training videos. These can cover technical, methodological and organizational aspects.

“The proposed platform should involve people and organizations working in multidimensional development field throughout the world. There should be regular sharing of ideas, innovations, experiences and resources.”

Enamul Huda, PRA Promoters' Society, Bangladesh

6.3 Opportunities

6.3.1 Growing interest in agricultural extension

There is now a growing interest in agricultural services by governments, donors and the private sector. The Global Forum for Rural Advisory Services, formed in early 2010, represents an effort to provide a voice for extension in global policy dialogue, support the development and synthesis of evidence-based approaches and policies on extension, facilitate networking for institutional and individual capacity-strengthening, and promote an enabling environment for improved investment in extension (<http://www.g-fras.org>).

6.3.2 Increased attention to farmers' innovation

Various initiatives, such as participatory radio campaigns (e.g. those organized by partners of FRI), Prolinnova, the Honeybee Network and the rapidly expanding video library of Digital Green, offer a great starting point for creating quality video programs that have a wider regional relevance and appeal.

6.3.3 International organizations want to enhance impact through video

Following the example of AfricaRice, other international agencies such as ICRISAT, IRRI and IFDC have started to invest in producing quality farmer-to-farmer training videos. With the locally trained teams they will be able to contribute quality videos and local language translations.

6.3.4 Multiple initiatives to link to

Apart from the initiatives mentioned in the previous section that have established databases on good agricultural practices in video, audio and PDF formats, there are numerous small-scale and various large-scale initiatives that would benefit a lot from a global web-based platform for video-sharing. The platform will provide them simple tools to help them make better videos and allow them to have their own training videos hosted on the platform. Some of the organizations may see an opportunity to have the skills of their staff or partners further strengthened in multi-media productions.

The Africa Soil Health Consortium (ASHC) brings together experts and practitioners from organizations in West and East Africa to combine research information and field experiences on soil management, and develop this in a variety of formats, including quality farmer training videos. (<http://www.cabi.org/default.aspx?site=170&page=3778>).

Farm Radio International (FRI) has been working for 30 years with broadcasters in Africa. FRI researches and writes radio scripts on crop production, environment management, farm and household management, and more. FRI sends these scripts, in English and French, to its partners in

sub-Saharan Africa. Although FRI's website does not host audio files, the radio scripts offer a source of inspiration to develop future video programs (<http://www.farmradio.org/english/radio-scripts>).

WRENmedia established Agfax, a radio service with an emphasis on agricultural science and innovation, now focussing solely on Africa, over 15 years ago. Interviews and features are commissioned from a network of 21 trained and motivated African radio journalists, some of whom have shown interest in becoming bi-media and could be trained to develop video scripts (<http://www.agfax.net>).

CTA's Publications Distribution Service, along with those offered by WRENmedia and FRI, offer great potential for creating links to the video platform, as well as for physical dissemination of VCDs or DVDs to a large number of rural service providers (<http://www.cta.int>).

FFSNet. The widespread impulse of FFS offers huge potential for both content creation and use of a web-based platform for video sharing. For instance, the Ministry of Agriculture in China is launching a nation-wide initiative to upscale farmer field schools. In each of the 800 counties they will develop local county FFS programs to train extension staff and farmers (<http://www.vegetableipmasia.org/News/News33.html>).

The mFarmer initiative facilitates the creation and scaling up of mobile agricultural solutions to increase the productivity and income of rural small-holders. By 2013 they want two million farmers using the mFarmer Services in India and Sub-Saharan Africa (Ethiopia, Ghana, Mali, Mozambique, Tanzania, Kenya, Malawi, Nigeria, Rwanda, Uganda, Zambia). The web-based video platform proposed in the next section will provide content that can be used or adapted for mobile phones (http://gsmworld.com/our-work/mobile_planet/development_fund/mfarmer_initiative_fund.htm).

Digital Green in India has a rich source of local language videos that can provide ideas for new quality, scripted videos that are more suitable for regional scaling up and multi-language translations (http://www.digitalgreen.org/analytics/video_module/?geog=country&id=1).

ILEIA, the Centre for Learning on sustainable agriculture, is an independent organization that supports the search for sustainable alternatives to conventional high-input agriculture by collecting, analysing and exchanging information on practical experiences of small farmers in the South. ILEIA co-operates with many other organisations in promoting ecologically sound agriculture. Their quarterly Farming Matters magazine has over 60,000 subscribers, with the readership being estimated to be up to 300,000 readers all over the world. Via the magazine physical copies of training videos (or video-related information) could be distributed.

6.4 Challenges

The development and use of a global web-based platform for sharing of agricultural training videos faces a number of challenges.

6.4.1 Translating demand into appropriate content

Most ICT initiatives have focused more on the tool and less on the content. While technological advancement and falling costs of tele-communication have expanded the availability and access to ICTs, there has been little attention to developing locally relevant content. In most cases, the practice has been to have the tool first and then look for content (Sulaiman *et al.*, 2011b).

Prioritization has always been complex, especially over large geographical areas. The web-based video platform should prioritize content by looking at the potential use of a video. International organizations, companies and regional farmer organizations know which topics will be of most benefit to their efforts, so rather than spending lots of time and money prioritizing, let video-makers fully engage with on-going and newly planned regional initiatives to decide on needed content.

Once this is done, the zooming-in, zooming-out (ZIZO) approach offers a good guide as to how to proceed in order to make regionally relevant and locally appropriate videos (Van Mele, 2006, 2008, 2010).

6.4.2 Risk of videos becoming prescriptive

Over the past two decades extension has gone through a major paradigm shift under the influence of the farmer field schools (FFS). Still, mind sets of many scientists and extension service providers continue to be in a prescriptive rather than a collaborative learning mode when working with farmers. This has direct implications to the scalability of training videos. Highly prescriptive recommendations have limited scope for scaling up. If the focus is more on learning about a technology by explaining and visualizing underlying principles of a technology, farmers across countries and continents can more easily apply this in their own context (Van Mele *et al.*, 2010b).

This is one of the reasons why the ZIZO method aims at working with scientists, extension workers and farmers who have been engaged in FFS or other ways of collaborative learning.

6.4.3 Limited attention to quality

There is a trend among many rural development organizations to go for quantity with almost no attention to quality, triggered by an increased availability of cheap video cameras, mobile phones and still cameras with video options. YouTube and social media have further added a certain level of artificial confidence that ‘anything goes’ and that there are millions of end-users interested in watching whatever is dumped on the web.

Although users with fast internet connections and with plenty of time to spend behind a computer (a rare combination in most developing countries) may find things that are of interest, the web pollution with poor quality videos means that for many service providers finding a good video is like looking for a needle in a haystack.

[Agricultural training videos should be] well produced. Talking heads do not work. Lots of action and good narration. Put time and money and do it well. Bad ones out there already.

Jay Pscheidt, Oregon State University

6.4.4 Producing local language versions

Ensuring the quality of the translated programs has been a challenge at first, as there was a disjunction between the national scientists and the media people doing the translation work, i.e. they do not ‘speak’ the same language. Local media people expected to be told what to do, while scientists did not know the process and work needed for a quality product. As local media companies tend to go for the cheapest option and lowest quality (often not taking agriculture

seriously), the voice over recording and editing in many cases had to be done again and again until the standard was suitable.

6.4.5 Capacity building

The four challenges mentioned above emphasize the need to train media professionals, researchers and extensionists on developing quality farmer training videos. Simple guidelines or e-learning modules could be established for certain aspects and posted on the web-based platform, to complement hands-on capacity building workshops.

6.4.6 Institutional barriers to cross-cultural learning

Although researchers and service providers often browse YouTube to get ideas from across the globe, quite a few respondents to the survey mentioned that the farmers with whom they work should only watch video training programs made in their own localities for reasons of cultural appropriateness. Giving them the benefit of the doubt, it may also be because they have never found good enough quality videos from other countries. Those who actually did use training videos made in other countries found that the objection to cultural differences is not a valid one.

“When I started my career I had to train some ultra-poor char (river island) dwellers who were completely illiterate. So I used video to train them. The videos were taken with Filipino and Thai farmers who were wearing shorts and hats. My fellow participants were very excited to see “gentlemen” with ploughs. They were also excited to see and understand the technology and most of them agreed to practice it [SRI] in the upcoming season.”

Md. Wahidul Amin, IRRI, Bangladesh

6.4.7 Local-content quotas

Community radio and TV stations have to adhere to local-content quotas. This may limit their interest in using quality audio and video materials made in other countries, unless available in one of the local languages from the area in which they operate.

The web-based platform was generally considered as a highly needed new initiative, although some respondents to the survey cautioned.

“It will be a havoc of a workload to maintain something like that in such a way that it is really helpful. I assume you underestimate the workload to make this going and keep it always up-to-date.”

Hans Schaltenbrand, SHL, Swiss College of Agriculture

6.4.8 Over-emphasis on ICT technology

ICT spending across Africa is expected to grow by 10% in 2011, reaching a total of \$25 billion (<http://africa.oneworld.net/>). This is mainly invested in mobile telephony and ICT infrastructure and applications. Very little attention is paid to creating quality content.

Despite emerging evidence of the power of farmer-to-farmer video in reducing poverty, overcoming gender and participant bias in training, and building social and institutional capital, it still has to be taken up by the donor community, as well as other investors (governments, private) and stakeholders. After describing all possible sustainable agricultural practices, the IFAD Rural Poverty Report 2011 (IFAD, 2011) states that “sustainable intensification also requires that

smallholders develop the skills to understand how the different technological and ecological elements of a context-adapted intensification agenda fit together, and to make informed choices as to how to use the tools at their disposal". Although this clearly hints to the need to build on discovery learning principles, the report limits itself to giving examples of face-to-face methods, such as the *Campesino a Campesino* movement in Latin America and farmer field schools (FFS).

Overall, there seems to be a wide gap between those promoting ICT-based interventions and those promoting more bottom-up approaches in development. Video could play a bridging function.

6.4.9 Insufficient attention to networking

Developing quality agricultural training videos and a web-based platform will not be enough. To ensure that extension service providers who are less connected to the internet will benefit from it, a communication officer will need to engage strongly with regional and national knowledge brokers to motivate them to share VCD or DVD compilations around specific themes, and to contact potential service providers to encourage them to use videos.



Promoting sustainable agriculture among rural people is best done by building on discovery learning principles, as developed in farmer field schools.



Video offers good opportunities to enhance learning among rural children and women.

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Annexes

Annex 1. Survey

Q1. First and family name	
Q2. Name of the organization where you work	
Q3. Type of organization	(1) national research; (2) international research; (3) national or local NGO; (4) international NGO; <input type="text"/> (5) extension service ; (6) farmer organization; (7) radio; (8) other (briefly describe)
Q4. The main country(ies) where you work	
Q5. Email	
Q6. How often do you or your organization use video to train farmers?	(1) never; (2) seldom; (3) occasionally; (4) regularly; (5) very frequently <input type="text"/>
Q7. If never, please explain why you haven't done so far.	I don't know where to look for training videos I haven't found videos on the right subject <input type="text"/> I haven't found videos in local language Other (briefly describe)
Q8. How would you rate the usefulness of videos ...	
...to reach women?	(1) not useful; (2) a little useful; (3) fairly useful; (4) quite useful; (5) very useful <input type="text"/>
...to reach youth?	(1) not useful; (2) a little useful; (3) fairly useful; (4) quite useful; (5) very useful <input type="text"/>
...to reach illiterate?	(1) not useful; (2) a little useful; (3) fairly useful; (4) quite useful; (5) very useful <input type="text"/>
...to train groups?	(1) not useful; (2) a little useful; (3) fairly useful; (4) quite useful; (5) very useful <input type="text"/>
Q9. What are the key ingredients that make video useful to train farmers?	
Q10. What do you consider key limitations of using video to train farmers?	

<p>Q11. How have you used the videos? If in multiple ways, fill out multiple cells.</p>	<p>(1) showed them in communities (2) showed them to small groups (3) broadcasted them on TV (4) used them as ideas for extension experiences (5) used audio track for radio broadcast (6) used clips on mobile phones (7) other (briefly describe)</p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<p>Q12. How effective has your video-based training been?</p>	<p>(1) not effective; (2) a little effective; (3) fairly effective; (4) quite effective; (5) very effective</p>	<input type="checkbox"/>	
<p>Q13. What could improve the effectiveness?</p>			
<p>Q14. How important do you find local language of videos to train farmers?</p>	<p>(1) not important; (2) a little important; (3) fairly important; (4) quite important; (5) very important</p>	<input type="checkbox"/>	
<p>Q15. What key areas do you consider priority for future video production?</p>			
	<p>low priority</p>	<p>medium priority</p>	<p>high priority</p>
<p>crops and trees</p>			
<p>livestock and fodder</p>			
<p>fisheries</p>			
<p>soil health</p>			
<p>plant health</p>			
<p>water management</p>			
<p>food processing</p>			
<p>value chains</p>			
<p>financial services</p>			
<p>farmer organizations</p>			
<p>other topic of high priority (briefly describe)</p>			

Q16. How often do you browse the web in search of agricultural training videos?	(1) never; (2) seldom; (3) occasionally; (4) regularly; (5) very frequently	<input type="text"/>
Q17. Which websites do you visit to watch agricultural training videos?		
Q18. How useful would you find a global internet-based platform to access and share agricultural training videos?	(1) not useful; (2) a little useful; (3) fairly useful; (4) quite useful; (5) very useful	<input type="text"/>
Q19. What do you consider as necessary content for such a web-based platform for farmer training?		
<i>Agricultural technologies</i>	Yes <input type="text"/>	No <input type="text"/>
<i>Post-harvest and processing</i>	Yes <input type="text"/>	No <input type="text"/>
<i>Methods (farmer field schools,...)</i>	Yes <input type="text"/>	No <input type="text"/>
<i>Organizational (credit, markets,...)</i>	Yes <input type="text"/>	No <input type="text"/>
<i>Opinion-sharing and advocacy</i>	Yes <input type="text"/>	No <input type="text"/>
Q20. What would you recommend for the development of such a web-based platform?		
Q21. Would you like to be involved in the development of this platform?	Yes <input type="text"/>	No <input type="text"/>

Annex 2. Websites where on-line survey was announced

<http://www.g-fras.org/en/community>

<http://www.saiplatform.org/events/news>

<http://portals.kit.nl/smartsite.shtml?id=7587>

<http://www.aarinena.org/>

http://www.comminit.com/africa/soul_beat_178.html

<http://blogs.worldwatch.org/nourishingtheplanet/11598/>

<http://nonprofitblogs.info/enhancing-farmer-to-farmer-learning-on-sustainable-agriculture-through-video/>

<http://www.facebook.com/rural.innovation>

http://groups.google.com/group/fldonlineforum/browse_thread/thread/a7d67791c15d4225

<http://www.changethru.info/post/7207849724/enhancing-farmer-to-farmer-learning-on-sustainable>

<http://www.tnpp.org/2011/07/enhancing-farmer-to-farmer-learning-on.html>

<http://dgroups.org/ViewDiscussion.aspx?c=2967143d-ddf3-4b28-bca8-954ce8671843&i=afba92a0-0838-4e67-ac2a-b47716d4a9f2>

<http://iconnect-online.org/blogs/have-your-say-how-improve-access-agricultural-training-videos>

<http://weekly.farmradio.org/2011/07/04/survey-asks-for-your-opinion-do-videos-contribute-to-farmer-to-farmer-learning/>

<http://hebdo.farmradio.org/2011/07/04/video-pour-ameliorer-l%E2%80%99apprentissage-d%E2%80%99agriculteur-a-agriculteur/>

<http://www.agricord.org/news/57602/survey-on-learning-through-video>

<http://sweetpotatoknowledge.org/discussion/general-discussion/222663809>

<http://www.agriculturesnetwork.org/>

<http://www.tandf.co.uk/journals/pdf/announcements/RAEE-Agro-insight-survey.pdf>