

## REINFORCING SOCIAL LEARNING BEYOND VIDEO: LESSONS FROM THE SASAKAWA GLOBAL 2000 RICE VIDEOS IN KAMWENGE DISTRICT, UGANDA

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### Abstract

The study assesses how social learning was triggered and reinforced through video-mediated extension as used by Sasakawa Global 2000 (SG 2000) from 2007 to 2010 among rice farmers in Kamwenge district, Uganda. A longitudinal study involving six focus group discussions and 100 semi-structured interviews were conducted in August 2015 to February 2016, and later 21 key informant interviews in June 2018 to generate data from farmers. While thematic-content analysis was used for the qualitative data, SPSS v.18 was used for quantitative data analysis. Results indicate that video-complementary extension methods were non-discriminative as evidenced by the diversity of farmers who participated in the demonstration sites, field days and exchange visits in terms of age mix and level of education attained. Furthermore, use of videos in extension is more effective when combined with other complementary follow-up extension methods; thus, deepening social learning among farmers. For effective scaling-up of the impact of video-mediated extension messages, use of complementary extension methods such as demonstration plots, exchange visit and field days offer greater opportunities for developing more localized videos for farmer learning. However, this requires pragmatic retooling of extension workers to effectively document local videos on the interactive learning that occurs in these complementary extension methods.

**Keywords:** Complementary Methods, Extension, Video-Mediated Learning, Social Learning, Uganda

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### Introduction

Globally, Information and Communication Technologies (ICTs) have been used to foster farmers' access to reliable agricultural information especially in developing countries (Karubanga *et al.*, 2016a). In Uganda, there are efforts by the Government through the Ministry of Agriculture, Animal Industry and Fisheries [MAAIF] to reform the extension services delivery with particular focus on use of ICTs (MAAIF, 2016). Videos, radio, mobile phones and television are among the ICT tools that are gaining popularity in enhancing learning about agricultural related knowledge and information among smallholder farmers (Ongachi *et al.*, 2017). Despite the efforts, farmers in Uganda still have limited access to reliable agricultural information (FAO, 2014) because of the unintegrated nature of agricultural extension

approaches with limited use of ICT tools partly due to the insufficient and inappropriate contents. Reviews of these reforms and different approaches tend to put the blame on inappropriate designs and inadequate resource investment including the small number of extension workers each one serving several thousands of smallholder farmers. For example, in Uganda, the extension worker to farmer ratio is reported at 1:3189 (Karubanga *et al.*, 2017a) necessitating use of interactive extension approaches that trigger and sustain interactive learning such as video-mediated extension (Karubanga *et al.*, 2019). While not refuting these claims, effective use of ICT tools and related methods of extension delivery need to be integrated in order to foster and deepen the social learning processes. Literature indicates that some

gaps still remain in the video-mediated extension approaches regarding their effectiveness in enhancing interactions among farmers even after they have left the video show venues (Karubanga *et al.*, 2017b; Ongachi *et al.*, 2017). Karubanga *et al.* (2017a) reported that the farmers were given an opportunity to first watch the videos shown by SG 2000 staff and later participated in other complementary extension methods to enhance more interactive learning; thus, deepening the social learning (Karubanga *et al.*, 2019). Therefore, an understanding of what happens after the farmers have left the video shows is paramount with regard to reinforcing social learning; the focus of this study.

Given the structural and logistical challenges of the extension worker reaching every smallholder farmer, especially in Africa, ICTs such as videos seem to have opened windows of opportunity for leveraging the already constrained extension systems (Karubanga *et al.*, 2017a). However, whether videos trigger interactive learning beyond the shows and how such interactions occur remains unexplained from the perspective of farmers. Thus, effectiveness of videos in extension depends on how it is integrated with other extension approaches to initiate and sustain interactions beyond the shows (Bentley *et al.*, 2014). Today, video is presented as a promising extension communication tool with potential to initiate and sustain farmer interactions especially if integrated with other extension approaches. Still, how this happens remains unknown from the perspective of the farmers' accessing and using the video-complemented extension approaches and methods. In order to understand these underlying assumptions, we assess how social learning was reinforced beyond the video shows among rice farmers using the case of Sasakawa Global 2000, a non-governmental organization promoting learning about better production practices, technologies and innovations among rice farmers in Kamwenge district, Uganda.

### **Theoretical framing**

This study was anchored in the social learning theory to demonstrate how SG 2000 rice videos were reinforced by other complementary extension approaches to enhance more sustained interactive farmer learning. A basic premise of social learning theory is that people learn not only through their own experiences but also by observing the actions of others and the results of those actions (Bandura, 1997; Karubanga *et al.*, 2017a). This theory was developed by Bandura in 1997 and is used to explain what happens with respect to the video-mediated complementary extension methods and approaches especially after the farmers have left the video shows. Social learning is emphasized here because farmers live in a social environment characterized by social interactions and sharing of knowledge and experiences either introduced from outside or

generated by themselves (Karubanga *et al.*, 2017a). The interactive extension complementary mechanisms provide a forum for farmers to collectively share the complex knowledge and information communicated in the video to enhance comprehension of the messages (Bentley *et al.*, 2015). Literature indicates that when farmers watch a video it creates awareness by eliciting their interests and curiosity about better practices and technologies of production (Bandura, 1997); and this is likely to be sustained even beyond the video shows (Karubanga *et al.*, 2017a). However, how this occurs remains unexplained. Social learning theory can be well demonstrated through other complementary extension methods such as demonstrations, exchange visits and field days as they also enhance more collective learning and adaptation (Bentley *et al.*, 2015). In this case, videos elicit interest and curiosity among viewers who in turn develop creative ways to comprehend, repackage and harmonize the messages among themselves and in the process enhances more interactive learning and sharing of experiences (MacGregor, 2007; Cai and Abbott, 2013). Repackaging of information allows for common understanding of more technical knowledge and information by farmers (Karubanga *et al.*, 2017b). Further interactions coupled with joint reflections and sharing of knowledge enhance more comprehension and learning (Danielsen *et al.*, 2015). Farmer learning through these complementary methods and approaches is also associated with experimentation and adaptations in an attempt to localize and implement learnt practices and technologies (Bentley *et al.*, 2014). Thus, effective farmer learning can only occur when farmers can engage with each other and later discuss through well facilitated platforms and implement what has been learnt (Bentley *et al.*, 2015). Farmers' viewing a video together is intended to initiate more interactive learning and sharing of knowledge and information thereafter (Cai and Abbott, 2013; Karubanga *et al.*, 2019). Elaboration of how the video triggers social learning beyond the video is the basis for affirming what other scholars such as Zossou *et al.* (2010), and Cai and Abbott (2013) claim that video stimulates interactions beyond video leading to self-learning or peer learning among participants – in this case the rice farmers.

### **Materials and Methods**

A longitudinal study was conducted from August 2015 to February 2016 and later a follow up study in June 2018 in eight villages in Mahyoro sub-county, Kamwenge district of Uganda where videos were used by SG 2000, a Non-Government Organization (NGO), in combination with other agricultural extension methods to disseminate rice related information to farmers. This study basically followed a qualitative approach which was preceded by conducting six focus group discussions and 100 semi-structured individual interviews and later 21 key informant interviews

in June 2018 to generate data from rice farmers and SG 2000 staff. Kamwenge district is one of the districts where use of videos is reported to have initiated and triggered interactive learning even beyond the video shows. The eight selected villages were those with records of farmers who participated in video shows and later participated in other agricultural extension methods such as demonstration plots, exchange visits and field days for purposes of enhancing further interactive learning beyond the shows. Both the video shows and complementary extension approaches were non-exclusive whereby all those who participated in the shows were allowed to also engage in the complementary training activities organized by SG 2000. For instance, the demonstration plots, exchange visits and field days were open for all farmers to participate and learn irrespective of age, gender, education and membership.

Multiple data collection tools were used in phases. The first phase involved conducting six focus group discussions (FGDs) each comprising of eight participants to gain insights on the experiences of farmers about how the complementary agricultural extension methods reinforced social learning beyond the video shows. Through the FGDs, information on the forms of interactions, modifications and adaptations made by farmers in these complementary agricultural extension methods as they carried out experimentations of the knowledge acquired from the video shows was also obtained. A total of 48 farmers (19 men and 29 women) participated in the FGDs. The FGD participants were purposively selected with the assistance of Mahyoro Rice Farmers Association (MARFA) leadership based on their experience in participating in video shows and other complementary agricultural extension methods. The second phase involved conducting semi-structured interviews with 100 individual farmers to assess their socio-demographic features such as sex, age, education level and land allocated to rice production. Basically, the purpose of conducting semi-structured interviews was to

characterize the farmers who attended the video shows and later participated in other agricultural complementary extension methods organized by SG 2000. All farmers who appeared in the records of MARFA were contacted for information.

In June 2018, a follow up study was conducted whereby 21 key informant interviews were held with purposively selected participants including 16 rice farmers and five local extension staff to generate deeper understanding of how social learning through video-mediated extension was reinforced by the complementary agricultural extension methods. The focus was on how the complementary agricultural extension methods were organized and implemented to enhance interactive learning and understanding of the video-mediated extension messages.

### **Data analysis**

Thematic-content analysis was applied to the data generated through FGDs and key informant interviews on the forms of the complementary agricultural extension methods and how they deepened farmers' social learning beyond the video shows. Data from the semi-structured interviews were analyzed using the Statistical Package for Social Sciences (SPSS) version 18.0 to generate percentages and means of socio-demographic features of rice farmers who participated in the demonstration sites, field days and exchange visits.

## **Results and Discussion**

### **Socio-economic attributes of respondents**

Table 1 below shows the summary of socio-economic description of rice farmers who participated in the video shows and later participated in the complementary agricultural extension sessions. The results presented here were basically meant to provide a clear description of the sample that participated in the complementary extension methods.

Table 1. Socio-demographic characteristics of respondents (n = 100).

Variable	Percentages/means
<b>Sex</b>	
Males	71
Females	29
<b>Age categories</b>	
Below 30 years	25
Between 31-50 years	54
Above 50 years	21
<b>Level of education</b>	
No formal education	89
Formal education (not beyond primary)	11
<b>Major occupation of respondents</b>	
On-farm business	98
Off-farm business	2
Land allocated to rice production (Acres)	1.5

Results presented in Table 1 indicate that the sample comprised of more males who participated in the complementary training sessions organized by SG 2000 to enhance more interaction and understanding of complex messages communicated through video. Most of the video participants were in the middle age category of 31-50 years. It is, however, important to note that more youth (below 31 years) attended the video shows and thereafter the complementary extension approaches (Karubanga *et al.*, 2017a; Wensing *et al.*, 2018). This is partly because the youth had less experience in rice production (less than five years) and had the urge to learn about better rice production practices and technologies. The timing of the video shows late in the night (between 1:00 pm - 10:00pm) also favoured participation of the youth because they were able to socialize with fellow peers and had motorcycles and bicycles, which eased their movement at night (Karubanga *et al.*, 2016b). Overall, the entertainment nature of the video triggered and sustained farmer interactions even further during the training sessions organized by SG 2000 in the demonstration plots, exchange visits and field days as farmers continued reflecting and relating what they saw in the video (Bede Lauréano, 2016; Karubanga *et al.*, 2016a). Because the video and the complementary extension approaches were non-discriminative, the diversity of farmers who watched the videos and later attended the demonstration sites, field days and exchange visits was greater in terms of sex, age mix and education level. This diversity is important in initiating and sustaining social learning even beyond the video shows as farmers continued sharing the knowledge and experiences during the training sessions organized at demonstration plots, field days and exchange visits. Table 1 further shows that nearly all farmers (98%) who attended the video shows and thereafter participated in the complementary extension methods had no other off-farm activities. Overall, rice farmers on average allocated 1.5 acres of land to rice production.

### **Social learning and complementary extension methods**

As is common in extension, a variety of methods and approaches are more effective in influencing behavioral change if integrated in the social learning processes. Such diversity in agricultural extension methods also enables them to play the card of complementarity. In particular, to complement the videos and ensure continued interactive learning and experiential sharing among rice farmers, SG 2000 used a variety of methods including demonstrations, field days and exchange visits. The explanation about how each of these complementary extension methods

was used by SG 2000 to deepen social learning among rice farmers is given in the subsequent sections.

### **Demonstration sites**

With the follow-up of the videos, SG 2000 encouraged establishment of farmer-controlled demonstration sites at parish level for purposes of experimentation and collective learning to enhance utilization of the knowledge acquired. However, individual farmers also experimented on their own farms. At the demonstration sites, among other things, farmers established a 5m x 5m plot and compared some of the practices and technologies learnt in the videos against their common practices. For example, yield of rice that was broadcast was compared with rice planted in rows, holding other practices and factors constant. In addition to the ease of operations such as weeding and fertilizer application, rice planted in lines yielded double compared to the broadcast; a clear evidence of the comparative advantage of planting in lines (Karubanga *et al.*, 2017a). Focus group discussions revealed that the farmers irregularly organized themselves to meet every week during the project period at the demonstration sites to make their observations, exchange ideas and learn together. The role of extension workers in this case was to facilitate the interactive learning process and come to a consensus on the key learning points and their implications to rice production in those areas (O'Donoghue *et al.*, 2007). Aside from the scheduled weekly meetings, key informant interviews with extension workers indicated that farmers freely visited the demonstration sites to learn anytime even without the facilitation of extension workers as affirmed by Karubanga *et al.* (2016a). The findings imply that the farmers themselves became experts in explaining what happened at the demonstration sites; of course, using the experiences gained from the video shows.

Thus, a video recording of these learning processes at the demonstration sites would have been a valuable learning resource especially for the majority of farmers with no formal education (89%). Several studies demonstrate that farmers do not need to know the actors in order to learn from them (Bentley *et al.*, 2014; Van Mele *et al.*, 2010); as the pictures in the video can speak for themselves (Bede Lauréano, 2016; Karubanga *et al.*, 2019). However, our findings revealed a different scenario from the perspective of farmers who attended the video shows and thereafter the complementary extension methods. For example, during focus group discussions, farmers pointed out that when they watch a video in which a farmer they are familiar with explaining why and how things are done, the information is likely to be more acceptable and carries stronger

motivation for wider uptake. However, this raises a critical issue regarding the sustainability of production of videos, which are context specific. For example, how many videos can be produced and at what cost? Who pays for the costs involved in producing the context specific training videos? By definition, the training videos are about introducing new knowledge through presenting to farmers with options of good practices and technologies, which they adapt, to their own context to make a difference (Bentley *et al.*, 2015). However, this study revealed that such training videos need not to end with introducing new knowledge about practices and technologies. Instead, it would even be more effective if it is used to provide feedback in which knowledge generated through the interactive processes at the demonstration sites can be disseminated further. The inherent adaptations are integrated and made part of the knowledge system that is used to influence more farmers towards behavioral change. Thus, the videos have the potential to trigger social learning processes, which are further driven by farmers themselves.

### **Field days**

Field days were another method used by SG 2000 to follow up and provide additional support to farmers who participated in the videos. In a period of two years four field days were organized at MARFA offices on a bi-annual basis and were open for all people in the nearby communities to attend and learn from them including non-MARFA members. This was another platform for sharing knowledge and experiences for purposes of learning from each other even beyond the membership of MARFA. In the field days, farmers shared the knowledge they had internalized from their own experiences through songs and drama, another medium for strengthening social learning. The songs and drama were in a local dialect (Runyankore-Rukiga) which was understood by most farmers (79%) (Karubanga *et al.*, 2017a). The songs and drama were composed based on critical reflection, evaluation and experimentation. Through this, they repackaged the acquired knowledge including what they generated through their own experimentation and shared it with the wider community of farmers and other stakeholders. In this way, adapting and localizing the knowledge becomes easier (Danielsen *et al.*, 2015).

During field days, farmers also demonstrated what they learnt via video and compared their practices alongside the new practices learnt. The experience of the field days complemented with videos were used to influence attitude change among farmers. A missed opportunity however was that these experiences in the field-days including the songs and drama were not video recorded and used for further dissemination of

knowledge to other communities. The recorded videos would enhance learning process through well adapted messages communicated in the local languages of the farmers. The songs, for example, could be disseminated through other media such as radios, which have become more accessible everywhere in the country (Okry *et al.*, 2013).

### **Exchange visits**

Like demonstrations and field days, SG 2000 also used exchange visits to enhance farmer exposure and learning from each other. Six exchange visits were organized in two years by MARFA leadership and the farmers who were visited explained the practices and technologies they used and exchange of knowledge and experiences ensued. For example, one of the female farmers during key informant interviews said that;

“After watching the video, our leaders organized exchange visit to Kasese district in western Uganda where a group of 40 farmers under the leadership of MARFA chairperson were taken to learn more about rice production practices from fellow farmers” (Key informant interviews, June 2018).

More localized video recording of the farmer learning dynamics such as interactions and learning through exchange visits would have further strengthened the power of videos to influence change in communities outside the intervention area. In this regard, Okry *et al.* (2013) explain how expertise developed by farmers using videos was sold to farmers in neighbouring villages in Benin.

In the case of SG 2000, priority to participate in exchange visits was given to leaders of farmers with the view that they would later share their experiences with other farmers in their respective groups and beyond. Such visits tend to capacitate leaders and other farmers as change agents to provide technical guidance to other farmers (FAO, 2014). This is fundamental for initiating and sustaining social learning at a more local level. Because of the value of the learning that takes place through such social interactions, the farmers were willing to cost-share expenses of the exchange visits (Cobbinah *et al.*, 2018). Whereas cost-sharing may exclude the marginalized people particularly women and youth, it is an indication of the value that farmers attach to learning from such events. Experiences gained from the visits enhance adaptation and localization of knowledge and practices to suit the peculiar situations of farmers. Like it is argued before, a video recording of experiences of exchange visits would have triggered more social learning across communities and cultures (Van Mele *et al.*, 2010).

## Conclusion

This study assessed how social learning was reinforced beyond the video shows among rice farmers using the case of SG2000 in Kamwenge district, Uganda. Our results indicate that in order to complement the videos and ensure continued interactive learning and experiential sharing among rice farmers, SG 2000 used a variety of methods including demonstrations, field days and exchange visits. Results have clearly indicated that the video triggers social interactions and discussion among the viewers even beyond the video shows purposely to reflect on what has been seen and heard, and shared with other people who may not have viewed the video. In such processes, farmers are able to establish common understanding through repackaging of knowledge for localization and adaptation to the specific needs and context. The interactions, discussions and joint reflections that followed the video shows through these complementary extension methods are paramount for strengthening farmer learning, thus making video effective for integration in extension to enhance innovation. It can, therefore, be concluded that use of videos in extension is more effective when combined with other follow-up extension methods, which help to build on and deepen social exchange and learning among farmers. However, we acknowledge that these complementary extension methods may as well work as good standalone approaches and/or methods in enhancing access to and learning about agricultural information. To maximize benefits, these complementary agricultural extension methods offer greater opportunities for developing more videos that could be even more powerful tools in scaling-up the impact of video-mediated extension services. This is because the knowledge and technologies are more adapted, and new knowledge and innovations are generated through experimentation purposely to fit the prevailing production context. Thus, the social learning processes that take place through these complementary extension methods are imperative as they can reinforce the effectiveness of videos and conversely a video recording of those processes can likewise enhance the effectiveness of demonstrations, field days and exchange visits. The results presented and discussed here are about how SG 2000 used these methods to reinforce social learning acquired in the videos and highlight how videos could have further strengthened effectiveness of the complementary extension methods. All this happens through social learning processes. However, it requires systematic recording of experiences that occur in the complementary extension methods that can later be used for further dissemination of knowledge to other

communities through robust media locally available and accessible by farmers.

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We the authors declare no conflict of interest.

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