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CASE STUDY

FARMERS' AND RESEARCHERS' PERCEPTIONS ON MEDIATED COMMUNICATION OF AGRICULTURAL RESEARCH RESULTS BY RWANDA AGRICULTURE BOARD

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Abstract

This paper explores how mediated communication is perceived by farmers and agricultural researchers and extensionists in Rwanda, taking Rwanda Agriculture Board (RAB) as a Case Study. Literature revealed that studies on agricultural communication to farmers have focused on the role of mass media and new technologies in farmers' access to agricultural information. There have not been enough opportunities for farmers to voice how they think agricultural research information can best be communicated to them. In line with interpretive paradigm, qualitative approach, narrative strategy of inquiry and purposive sampling, 50 farmers and 20 RAB staff (researchers and extensionists) participated in the study. While researchers and extensionists at RAB said that they need to increase the use of mass communication media as well as the new technologies in order to effectively communicate to farmers, farmers expressed more reliance on interpersonal, face-to-face exchanges. Farmers said that they need people they can talk to face to face; people who can listen to their questions and grievances and provide adequate answers. They said that very few of them can read and write and have little or no access to technological devices recommended by RAB staff due to their living conditions.

Keywords: *researchers, extensionists, farmers, mediated communication, personal communication, research findings/results, agricultural research, agricultural research communication, agricultural extension, participatory communication, interaction*

Introduction

Rwanda Agriculture Board (RAB) is an autonomous body established by Law N°38/2010 of 25/11/2010. This law specifies that RAB has the general mission of championing the agriculture sector development into a knowledge based; technology driven and market -oriented industry, using modern methods in crop, animal, fisheries, forestry and soil and water management in food, fibre and fuel wood production and processing. RAB, which is under the Ministry of Agriculture, was formed from three agriculture agencies, namely the Rwanda Agriculture Research Institute (French acronym: ISAR – Institut des Sciences Agronomiques du Rwanda), which was primarily dealing with agricultural research on one side, and the Rwanda Animal Resources Development Authority (RARDA) together with the Rwanda Agricultural Development Authority (RADA), which were serving as extension agencies. This was meant to remove the historical legacy that had created a huge gap between research and extension. It was also meant to strengthen the linkage with policy, and establish efficiency in service delivery through institutional integration in the agricultural sector for improved livelihoods of the Rwandan people (Rwanda Agricultural Board, 2012). However, farmers that happened to work with researchers and extensionists at RAB revealed that they still do not adequately get research findings

from RAB. They said that they still suffer lack of agricultural information and participation in discourses about what is done for them.

Methods

In line with interpretive paradigm, qualitative approach, narrative strategy of inquiry and purposive sampling. Although its head office was put in Kigali, the Capital of Rwanda, Rwanda Agriculture Board was meant to execute its activities in four agricultural zones of the country: Northern Zone, Southern Zone, Western Zone, and Eastern Zone. It therefore has 4 branches corresponding to those agricultural zones, which are structured in almost the same way. For the sake of this paper, the data involved were generated/collected in the Southern Zone.

The study worked with a purposive sample of 70 participants (20 RAB staff representing 20 departments – researchers and extensionists as well as 50 farmers that happened to work with RAB as per RAB staff. Data were mainly generated using interviews with researchers and extensionists and focus group discussions with farmers. Two group discussions were conducted with 30 farmers from two cooperatives, that is 15 farmers per group discussion, and two other group discussions were held with 20 farmers who did not belong to cooperatives, that is 10 farmers per group discussion.

Previous Research in Agricultural Research Communication

This section shows research endeavours that have been undertaken in relation to agricultural communication. It shows the importance that researchers attach to the communication of agricultural research results, the challenges researchers have been facing in this area, and how this communication has been conceived by researchers in general and Rwandan researchers in particular.

Researchers and the Communication of Research Output

Research has revealed that researchers have not been communicating agricultural research outputs effectively. Kirkland, Mouton and Coates (2010) argue that much as researchers are expected to be a key intermediary resource to provide solutions to improve the quality of life of poor people in Africa, there has been little institutional support for them in the area of research communication (Kirkland, Mouton and Coates, 2010, p.3). Edge, Martin, Rudgard and Manning (2011, p. 3) found out that making a research output freely and openly available can be in the hands of the individual. These scholars realised that there are barriers to the communication of research outputs such as the lack of required resources and institutional policies to drive these activities. They also realised that current behaviours in choosing routes to communicate research results are still strongly biased toward the traditional routes of publishing in journals and books and appearing at conferences (Butera, Shyaka and Habimana, 2012, p.61). This puts aside people like farmers who are not highly educated and have little or no access to academic channels of communication.

Edge, Martin, Rudgard and Manning (2011, p. 9) realised that the most important factors that encourage researchers to communicate their research outputs effectively are related to ‘opportunities for career enhancement’, ‘institutional demands to report or communicate outputs’, and institutional capabilities (‘access to adequate IT infrastructure’). They also realised some role of direct monetary reward in relation to royalties and opportunities for personal development. They also observed that given the fact that those incentives are not always available, researchers do not adequately communicate their research results (Edge, Martin, Rudgard and Manning, 2011, p. 9).

However, although researchers agreed that they do not communicate research results properly, they all admit that communicating agricultural research outputs has a lot of benefits such as ‘contributing to science’, ‘reaching the target audience’ and ‘contributing to alleviating hunger and poverty’ (Edge, Martin, Rudgard and Manning, 2011, p. 10).

Agricultural Extension as a Way of Communicating Agricultural Research

Agricultural extension has traditionally been defined as the delivery of information and technologies to farmers, which leads to the technology transfer model of extension, seen by many as the main purpose of agricultural extension (Anandajayasekeram, Puskur, Workneh, and Hoekstra, 2008, p. 83). This is based on the idea that 'modern' knowledge and information is transferred through extension agents to recipient farmers. It limits itself to the dissemination of agricultural information. Although, for some scholars, agricultural extension is thought about as the only way to communicate agricultural research results for many organisations, it is basically rooted in westernisation and modernisation paradigm and seldom meets the needs of farmers. It does not empower them to own and make use of agricultural research results.

Anandajayasekeram, Puskur, Workneh, and Hoekstra (2008) say that for a long time, development of agriculture in developing countries mainly consisted of farmers and communities being told what to do, often by institutions and agents who have not taken sufficient time to understand their real needs and practices. This scholar also adds that over the last two decades, government and nongovernmental organizations have recognised the need to move away from instruction and blue print solutions, towards more participatory approaches which involve communities in setting and fulfilling their own development goals and solutions. Hence, the system-oriented and participatory approaches are being increasingly integrated into the emerging research and development (R&D) paradigm.

Barriers to Agricultural Communication

As Edge, Martin, Rudgard and Manning (2011, p. 11) put it, the most significant barriers that prevent researchers/scientists from communicating research outputs are 'lack of resources/time', 'lack of funding', and 'weak linkages between researcher and end user'. The least important barriers were found to be 'concerns about stealing and re-use of outputs, etc.', 'lack of skills/access', and 'poor IT infrastructure'. However, these scholars (Edge, Martin, Rudgard and Manning, 2011, p.9) say that these negative factors should not prevent researchers from using their efforts to communicate their outputs. They posit that the communication of research to target audiences is perceived as being of high importance, and that researchers need to focus on this no matter how high the barriers are (Edge, Martin, Rudgard and Manning, 2011, p. 9).

Agricultural Extension in Rwanda

The agricultural extension system in Rwanda has changed substantially since the colonial period, before 1962, and the post-colonial period up to 1980 where the primary focus was on export crops, including coffee, tea, pyrethrum and quinquina. During this earlier period, extension was a very top-down system where farmers were required to follow key production practices as defined by the colonial and post-colonial governments and as implemented by the field extension workers (USAID, 2011).

From 1980 through 1994, the extension system was still dominated by the government using a top-down approach, including Training and Visit (T&V) Extension introduced by the World Bank (WB). At the same time the international NGOs began providing agricultural extension services. After the 1994 genocide, an emergency phase was started (1994-1998) and both national and international NGOs began creating new farmer associations. Most of these NGOs did not and still do not work closely together in providing advisory service and coordinating their respective extension activities. Then in 1998, "sector-level" MINAGRI extension workers (i.e. agricultural monitors or MONAGRI) were officially removed as national government employees. This removal, however, created a serious gap between MINAGRI institutions and the farmers being served. However, there continued to be extension advisors for key export and cash crops (e.g. coffee, tea, Irish potatoes) (USAID, 2011).

During the past decade, however, new extension approaches have been considered to provide improved advisory services to different categories of farmers. It has become widely accepted that

extension services should be provided through a pluralistic extension system including the public sector (i.e. at the national, district and sector levels), international and local NGOs, as well as the private sector. It is also widely accepted that extension service providers should be more participatory (i.e. more farmer-driven) and market-oriented. For example, there is a strong focus on developing commodity chains for key staple crops (e.g. maize, beans, rice, wheat) to achieve national food security, as well as export crops (e.g. coffee, tea, and key horticultural crops) to improve rural livelihoods by increasing farm household income and, thereby, reducing rural poverty. Another key goal is to improve household nutrition by having one cow per family, especially among small farm households (USAID, 2011).

In the comprehensive assessment of extension services that was carried out in Rwanda in 2011, the extension workers in most districts and sectors continue to implement a more top - down extension strategy that has limited impact on farmers. Organizational modifications at the national and zonal level, in the area of agricultural extension, did not address the major linkage problems that still exist between the Ministry of Agriculture and Animal Resources in charge of agricultural sector in Rwanda and the Ministry of Local Government that employs district and sector extension workers. After assessing these different service providers, it was clear that agricultural extension activities are not properly coordinated, especially between the national and district levels (USAID, 2011).

Mass Media in the Communication of Agricultural Research Results

Bernard, R.T. & Frankwell W. Dulle (2014), and Nazari, M.R. and Hassan, M.S.B.H (2011), supported the idea that mass media constitute the best sources of disseminating information on new technologies and new agricultural innovations among farmers, and are faster than personal contacts. These scholars reduced agricultural communication to 'dissemination' of agricultural information without considering the unique social, economic, cultural, historical and political contexts farmers might be in as well as their varying and changing needs. In their view, the achievement of agricultural development programmes in developing countries largely depends on the nature and extent of use of the mass media in the mobilisation of people for development. These scholars and many others showed that radio has proved to be the most preferred medium by farmers. Their studies and many similar others have been presenting to farmers a group of media they had to chose from. They have not been giving farmers chances and opportunities to talk about how they think they can best be communicated to. Farmers were also not given opportunities to say how effective mass media and new technologies have been to them in communicating agricultural research results.

Instead of agricultural research communication, only agricultural extension has been known and used. Activities that have been envisaged in this approach are mainly information and training about some practices as well as distribution of seeds to farmers' representatives.

Gaps Identified in the Communication of Agricultural Research Results

The review of the existing literature shows that scholars have shown the importance of agricultural research in development, especially in developing countries. Scholars observed that researchers should not only focus on research findings' generation, but also on research findings' communication. However, although they acknowledged the importance of communication, they stressed that this communication has not been given ample consideration.

While reviewing the literature, some gaps were identified and include the following:

- Research has focused on agricultural research results generation but little or no research has been in the area of agricultural research results communication to farmers
- In agricultural sector in Rwanda, extension has been conceived and discussed as a concept that includes the communication of agricultural research results, whereas "extension" and "communication" are different.

- In spite of the changes that took place in the agricultural extension sector in Rwanda, the system remained largely "top-down". Farmers have always been placed in the receiving end
- There has been over-reliance on media and mediated communication although farmers were not given opportunities to say whether those are better means to communicate to them.

Results and Discussions

This section discusses communication initiatives at Rwanda Agriculture Board in the light of the data that were collected/generated in the study that was carried out. These data were obtained during a series of interviews and discussions with RAB researchers and extensionists as well as the farmers that happened to work with this agricultural research institution.

Mass Communication Initiatives at Rwanda Agriculture Board

During interviews with staff at Rwanda Agriculture Board (RAB), researchers and extensionists said that RAB used to have several media programmes that were used to disseminate information about their research. They said that they used to have three weekly radio programmes broadcasted on Radio Rwanda, Radio Izuba and Radio Salus on ISAR technologies in 2005-2006. ISAR is an agricultural research institution that became RAB after grouping it with Rwanda Animal Resources Development Authority (RARDA) and Rwanda Agricultural Development Authority (RADA). RAB researchers and extensionists said that these programmes were stopped because of lack of proper follow-up. They said that today, RAB mostly buys airtime and space in media outlets in Rwanda to disseminate information to farmers. They mentioned Radio Rwanda and Rwanda TV of Rwanda Broadcasting Agency (RBA), Imvaho Nshya, etc. They also indicated that some of their research results are also published in "Hinga Worora", an agricultural magazine owned by the Ministry of Agriculture, as well as on RAB website.

Closely related to mass media are publications such as books, book chapters and journal articles that researchers said they also use to publish their findings. Researchers said that though they come up with these publications to contribute to the existing body of knowledge and get promoted, they said that there are a few educated farmers who can also access these publications and get the research findings. RAB researchers and extensionists also said that some information about their findings is also available on RAB website http://www.rab.gov.rw and can be accessed by all people with access to internet. RAB researchers, however, added that practically very few farmers are able to visit this website due to general literacy issues as well as financial limitations. On the issue of mass media, farmers said that the only mass medium that can reach them is radio, but added that this is good for announcements and not the kind of communication they would wish. They said that these media are non-personal and do not foster interaction, participation and face-to-face discussion.

Leaflets, Flyers, Booklets and Brochures

While talking about how research results are packaged for farmers, researchers and extensionists at Rwanda Agriculture Board said that there are also leaflets, flyers, booklets and brochures packaged for non-scientific audiences that are sent to various stakeholders and partners, including farmers. RAB researchers and extensionists said that, in their context, these tools are used to target policy makers, partners as well as farmers. They said that while the tools that are targeting policy makers and other partners can be written English or French, the ones targeting farmers are solely put in Kinyarwanda so that they can benefit farmers who can averagely read Kinyarwanda. These participants said that in these approaches, key messages are selected and put in simple language for people to palate without any difficulty. They mentioned messages such as how quality maize seeds are obtained; how beans are planted or weeded; cassava mosaic and how to deal with it; identifying diseased banana trees, etc.

Non-mediated Communication Initiatives

As researchers at RAB indicated, these include direct approaches consisting of RAB researchers and/ or other staff directly meeting/facing farmers. They include cases where researchers and other RAB staff decide to go out and meet farmers. They also include a few cases of farmers that decide to come to meet RAB researchers at the RAB station when they have issues where they need assistance. Researchers take the decision to meet farmers when they are in the process of checking their products or want to collect some information from farmers. In their researches that they carry out for publication purposes, RAB researchers sometimes choose to work with farmers. In this case, the farmers are selected depending on the topics as well as how researchers chose to approach them. Here, not all farmers are considered. RAB researchers also sometimes go to farmers when they have undertaken certain studies and have reached the stage of checking or verifying in farmers' plots of land. RAB staff also said that there are several other occasions that make them directly meet farmers for example when they want to demonstrate certain practices or to showcase certain products or techniques.

The following are some of the direct approaches that researchers and extensionists said they happened to use in their encounter with farmers: Demonstration Plots using both on-station and on-farm trials; Integrated Watershed Management approach; Integrated Agricultural Research for Development (IAR4D); Farmer - Field schools; Farmer Cooperatives; Innovation Platforms; Local Agricultural Innovation Centres; Field Visits; Study Tours; National Agriculture Show every year, and Extension Windows.

Demonstration Plots/ on-Station and on-farm Trials

a) RAB on-station trials

As RAB researchers expressed, field experiments are set in RAB stations by each crop research programme, be it rice, maize, cassava, sorghum, beans, soybeans, horticulture, etc. All programmes follow different research designs according to their research objectives: resistance to drought, pests and diseases; adaptability and adaptation to agro ecological zones, etc. Through 'open days' organised every year, farmers neighbouring RAB stations uptake some of the technology packages given the advantages demonstrated by new ways of farming crops and livestock in the research stations.

b) RAB on-farm trials

As researchers and extensionists said, unlike on-station trials, on-farm trials are set up by RAB researchers and extensionists across the country in farmers' fields for adaptation and adaptability of crops to different agro-ecological zones of Rwanda. They are easy to establish because they constitute a repetition of the successful on-station trials in farmers' field. In addition to the eye-visit of neighbouring farmers, field days are regularly organised for farmers to select performing varieties and appreciate the technology packages in their own fields.

However, researchers and extensionists said that this approach also has some challenges. Many farmers consider these on-farm trials as RAB business, not theirs. This results in many farmers being reluctant to cooperate and adopt the knowledge therein, and therefore technology spill-over becomes limited.

Integrated Watershed Management Approach (IWM)

The Integrated Watershed Management Approach was explained by RAB researchers as the process of managing human activities and natural resources on a watershed basis, taking into account, social, economic and environmental issues, as well as community interests in order to manage water resources sustainably. Used as an approach to directly reach farmers, RAB researchers and extensionists said that

this approach implies participation of the whole community. It is ideally a participatory and multidisciplinary approach implemented through farmers' cooperatives.

It is worth mentioning that this approach was amply utilised before ISAR became RAB though experiences that were acquired still hold under RAB. Researchers at RAB said that this approach also had challenges. They said that working in a multidisciplinary team was new and not easily understood by all researchers but added that the approach seemed to be the most effective and successful.

Integrated Agricultural Research for Development (IAR4D)

Researchers at RAB said that this approach is intended to link farming activities with markets. They said that the major component of the IAR4D approach is implemented through the formation and operationalization of Innovation Platforms (IPs) of stakeholders that are united by complementary interests in priority value chains identified in participatory manner and consensus building among stakeholders.

RAB researchers said that this approach has been characterised by training sessions on several issues such as post-harvest practices and seeds selection, crop processing, hygiene and sanitation, preservation and packaging, production costing, hygienic milk production, milk handling and transportation, etc.

RAB researchers said that though this approach was also expected to yield good results, it also faced challenges. They said that the IPs operate in vast zones (districts) and are not easy to follow up for the facilitators.

Farmer Field Schools (FFS)

Researchers said that the Farmer Field School (FFS) approach ensures participation of farmers based on innovations and learning by discovery as they take up various enterprises. As researchers explained, the FFS is made up of 20-30 farmers who work together and meet regularly. Trained facilitators (extensionists) assist the farmers and the topics of each meeting are related to the seasonal cycles of the practice being investigated. As researchers said in this school, farmers learn by doing in their gardens where the local facilitators meet them in their farms to analyse the problems that affect crops, soil infertility, the way of applying fertilizers, etc. The graduates of FFS facilitate other farmers to start Farmer Run Field School (FRFS).

Researchers said that this approach also faced a challenge. They said that some FFS facilitators were not paid and dropped out of the system while farmers were discouraged by unfavourable weather conditions (drought).

National Agriculture Show

As researchers said, national agriculture shows are organised by the Ministry of Agriculture (MINAGRI) every year. Here different programmes at Rwanda Agriculture Board display their research results and/or technologies developed and a few farmer innovators uptake them.

Artificial Insemination Centres for Genetic Animal Improvement

Researchers said that these are mainly for animal farmers. They are centres where animal farmers go for genetic animal improvement where they meet with experts and insemination is done in their presence. Researchers said that there are two Artificial Insemination Centres, which were established in Songa and Rubona (Southern Province) in 2005 for improvement of livestock for cattle keepers, and which are still functional. However, although researchers said that these centres are still operational, farmers that

were consulted during the focus group discussion said that the centres were only operational when the institution was still called ISAR.

Farmer Visits and Meetings with Farmers

Researchers and extensionists that were consulted during the study said that in their direct approaches, they happen to visit farmers and see what they do. This happens during different types of research whenever researchers and/or extensionists need inputs from farmers. This entails visiting farmers in cooperatives, farmers' gatherings, individual farmers in their homes or fields, etc. These farmers are often asked questions and/or researchers and extensionists carry out some observations. Researchers and extensionists also said that they have a series of meetings with farmers. They said that whenever they have information they want to convey to farmers or want to get ideas from farmers they work with local leaders and convene a meeting with farmers. These meetings are actually organised by local leaders who call farmers according to researchers/extensionists' instructions. However, as researchers and extensionists pointed out, these occasions are not frequent. They only happen when researchers and extensionists feel that there is a strong need to meet farmers.

Visits to RAB by farmers

Researchers and extensionists at Rwanda Agriculture Board said that it also happens that farmers visit RAB and meet different researchers and extensionists. They made it clear that this is done by very few farmers who are relatively literate or advanced in their way of understanding farming issues. Here, a few knowledgeable and advanced farmers sometimes walk into RAB and ask any questions they have or request any information they need. They are then allowed to meet any researcher/extensionist they want and/or are given any information they need. Researchers said that farmers also take the decision to go to RAB when they have something very urgent they want to take up. They mostly go there when there are diseases that have defeated their efforts or any other issue they feel they cannot address on their own.

Seminars, Conferences, Workshops

Researchers at the Rwanda Agriculture Board said that before anything else, they are researchers and have to fulfil the duties of researchers. They said that they get promoted because of their research and this is mainly apprehended through publications (journal articles, seminar and workshop papers, books and book chapters, etc.). These researchers said that it is through publications that they feel that they are doing their work because that is even where their reward comes from. These researchers said that seminars, conferences and workshops can also be considered as part of the direct approaches they use to meet farmers because some farmer representatives and cooperative representatives are also invited to attend these events.

All researchers that were approached during the study said that they acknowledge that messages in these approaches are not primarily packaged for farmers. They are primarily packaged for researchers and policymakers who can understand the language used and who can sometimes understand approaches that were used to get data and findings, and therefore, be able to replicate the research. Researchers said, however, that there are a few relatively educated farmers who happen to attend some seminars and conferences and manage to get some information.

It is worth noting that all farmers that participated in the study said that they are not aware of any seminar, conference or workshop. They said that most of the initiatives that would make them meet researchers face to face were only used when the organisation was still called ISAR. Farmers said that with the nowadays name (referring to RAB), they only hear about radio, newspapers and TV as well as the new technologies, which, farmers said, are not accessible for most of them.

Envisaged Communication Initiatives at Rwanda Agriculture Board

Researchers and extensionists at Rwanda Agriculture Board said that the communication of agricultural research results to farmers is generally in a good progress though it has not reached where they wish it to be. They said that they have not yet succeeded in effectively using new technologies such as internet and telephone to reach farmers. They said that nowadays internet and related tools have proved to be more effective in communication and that they will explore how to maximally use them in the interest of farmers. They also said that now that telephone ownership is increasing day and night in Rwanda, there is a need to widen telephone use in a bid to better the communication with farmers. They said that they intend to multiply mass media messages intended for farmers and maximise the use of internet and phones to instantly reach farmers.

Farmers' Appreciation of RAB Communication Initiatives

Although Rwanda Agriculture Board (RAB) has been in place since 2010, whenever farmers that neighbour this institution are asked about RAB, they do not quickly recognise that organisation. One needs to add some description so that they can recognise it. Farmers only have in mind the former Institute of Agricultural Sciences (ISAR). In general, farmers appreciated activities that RAB/ISAR does. They said that ISAR researchers come up with very good results such as quality seeds and quality animals, modern farming practices, modern animal rearing techniques, soil preparation and protection techniques, fertilisers, pesticides and other disease control mechanisms, etc.

Farmers said that demonstration gardens in ISAR are very nice to see and that every farmer would wish to emulate them. In their words, farmers said that they kept in mind the times they saw researchers that met them physically. They expressed their satisfaction with the person who happened to be the ISAR manager, who used to get out of ISAR premises and visit neighbouring people. They also expressed their happiness with the interns that happened to work at ISAR in 2005 who spent their time working with farmers. Farmers said that they owe much of what they know and practise to these interns. They said that these interns would take time and visit farmers' households and try to understand their situations. Farmers said that these interns would listen to their problems and sympathise with them. They said that every farmer wanted to meet and listen to these interns.

> Who would not listen to those 'wise and humane students'? They would come and meet us in our poor households. They would ask us to provide our ideas on issues such as erosion control and plant diseases. They never forced us to remove our traditional seeds. They never ordered to plant one crop. They never minded walking to the remote households and ask farmers about their farming concerns. They were there for us to demonstrate certain practices and we would ask whatever questions we had. They gave us avocado and agroforestry tree seedlings that we even keep today. They gave us banana seedlings and bean seeds. If they remained around, we would be far by now (Focus Group Discussion with farmers at Musasu, November 11, 2015 - Translated from Kinyarwanda).

Farmers said that they were happy with the way ISAR staff and interns were approaching them and what they got from them. They added that physical interaction reduced after RAB was created. They said that after the creation of RAB, face-to-face interaction with researchers became limited and that more consideration was given to mediated communication.

> After the creation of RAB, agronomists and local leaders would tell us to listen to the radio, watch television and read newspapers for information we need. They would tell us that we need to use technology and embrace technology-based communication. A few educated and literate farmers would sometimes get some materials such as booklets, brochures and leaflets that leaders said had information about modern farming practices and soil preparation and protection. With advances in technology, we even heard that farmers with mobile phones would access information like market prices via their phones,

> etc. However, this put us in a non-personal communication environment which might not be helpful for some of us. How many of us own radio or television sets? How many own telephones? How many of us can read and write? I even wonder whether the few of us who can access these media can ask questions on those radios, TVs, newspapers or those other reading materials they keep citing (Focus Group Discussion with Farmers at Shyogwe, September 1, 2015 - Translated from Kinyarwanda).

Conclusion

This paper explores how farmers and researchers in Rwanda perceive mediated communication and the role they attach to it. Literature revealed that studies on media and agricultural communication to farmers have focused on the role of mass media and new technologies in farmers' access to agricultural information. However, there have not been enough opportunities for farmers to voice what they think about mass media and mediated communication as well as how they think agricultural research information can best be communicated to them.

Much as RAB researchers and extensionists said that the communication of agricultural research results at RAB only needed an increase in using various media and new technologies, farmers expressed little interest and hope in mediated communication. They expressed that apart from very few well-off and/or educated and literate farmers, the vast majority of farmers wish to have more non-mediated communication. They expressed that they need people who can come to them; people who can listen to them; people who can interact with them in their remote places, their cultures and traditions; people who can answer their questions; people who can look at their situations and help them solve their problems; people who can give them time and make their concerns a priority.

References

Anandajayasekeram, P., Puskur, R., Workneh, S, & Hoekstra, D. (2008). *Concepts and practices in agricultural extension in developing countries: A source book*. Addis Ababa, Ethiopia: International Food Policy Research Institute (IFPRI).

Bernard, R. T., & Dulle, F. W. (2014). *Access and use of mass media by small-scale farmers in accessing agricultural information for poverty alleviation in Tanzania: A case study of Kilombero district*. Retrieved from http://www.suaire.suanet.ac.tz:8080/xmlui/handle/123456789/1772

Butera, V., Shyaka, J. G., & Habimana, D., (2012). Essay of causes analysis of low level of scientific research in higher learning and research institutions in Rwanda. *East African Journal of Science and Technology, 2*(1), 54-82. Retrieved from http://www.eajscience.com

Edge, P., Martin, F., Rudgard, S., & Thomas, N. M. (2011). *Researcher attitudes and behaviour towards the 'openness' of research outputs in agriculture and related fields*. Addis Ababa, Ethiopia: Coherence in Information for Agricultural Research for Development (CIARD).

Kirkland, J., Mouton, J., & Coates, D. (2010). *Communicating Research for Utilisation (CRU): Specialist professional and institutional capacity building in sub-Saharan Africa: Final report of the CRU scoping study*. Retrieved from http://www.drussa.org/getfile.php?id=1301

Ministry of Agriculture and Animal Resources. (2009). *National Agricultural Extension Strategy*. Kigali, Rwanda: Republic of Rwanda.

Ministry of Agriculture and Animal Resources. (2009). *National Agricultural Extension Strategy*. Kigali, Rwanda: Republic of Rwanda. Retrieved from Ministry of Agriculture and Animal Resources website: http://www.minagri.gov.rw/

Modernizing Extension and Advisory Services (MEAS). (2011). *Comprehensive assessment of extension services in Rwanda*. Retrieved from https://agrilinks.org/sites/default/files/resource/files/MEAS%20Country%20Report%20R WANDA%20-%20May%202011.pdf

Mohammad Reza Nazari, & Md Salleh Hj. Hassan. (2011). The role of television in the enhancement of farmers' agricultural knowledge. *African Journal of Agricultural Research, 6*(4), 931-936. Retrieved from http://www.academicjournals.org/AJAR

Republic of Rwanda. (2005). *The organic law no 20/2005 of the 20/10/2005 governing the organization and functioning of higher education*. Kigali, Rwanda: Republic of Rwanda.

Republic of Rwanda. (2007). *Economic Development and Poverty Reduction Strategy (EDPRS) 2008-2010*. Kigali, Rwanda: Republic of Rwanda.

Republic of Rwanda. (2008). *Vision 2020, in Official Gazette, n° 47 of 25/02/2008*. Kigali, Rwanda: Republic of Rwanda.

Republic of Rwanda. (2010). *The Presidential Order n° 51/01 of 13/07/2010 establishing quality standards in higher learning institutions*. Kigali, Rwanda: Republic of Rwanda.

Rwanda Agriculture Board (RAB). (2012). *Annual report 2011-2012*. Retrieved from Rwanda Agricultural Board website: http://www.rab.gov.rw/IMG/pdf/RAB_Annual_Repor_2011-2012.pdf

Rwanda Agriculture Board (RAB). (2012). *RAB citizen charter*. Retrieved from http://tiny.cc/qjbw2w

Rwanda Agriculture Board (RAB). (2013). *Overview of research*. Retrieved from http://www.rab.gov.rw/spip.php?article8

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