Agricultural Communication Practices on Increasing Wheat Production in Ethiopia: Amhara Region in Focus

Ahmed Hussed Seid[1]

Abstract

The study focused on agricultural communication practices to increase wheat production in Ethiopia: the case of the Amhara region. An interpretative research paradigm was used to understand the current ways farmers are provided information by the government gave farmers information to increase wheat production. A qualitative research approach was used to analyze documents about Ethiopia's agricultural extension strategy and the farmer interview. To select the sample for the study, the researcher used purposeful sampling. Interviews, document analysis, and discourse analysis were used to gather reliable data. The study finding indicated that the government did not employ a different way of providing information to increase wheat production than other agricultural production. Therefore, development agents are the primary and direct information providers for farmers, and the mass media are the secondary and indirect information providers for farmers. To increase wheat production and ensure food security, the government's information provision should be better and updated. Furthermore, since the era is the age of information, the government should directly use the mass media to spread agricultural knowledge and information and make it available to farmers.

Keywords: mobilization, participatory, communication and development

Introduction

Agriculture is the backbone of most sub-Saharan (SSA) countries' economies and contributes highly to the Gross Domestic Product (GDP) (Adolwa et al., 2012).

Communication has been acknowledged as a crucial element to achieving agricultural development goals and is considered one of the triggering factors in promoting and facilitating development efforts. Empirical evidence suggests that agricultural development activities depend primarily on information exchange between and between farmers, on the one hand, and a wide range of other development actors. It is believed that development cannot be achieved unless all those involved are linked to addressing development problems at the local levels (López & Bruening, 2002; Masambuka-Kanchewa et al., 2020; Rodriguez & Andrade, 2018).

Communication is a vital issue in agriculture, conveying improved and recommended agricultural practices through extension workers to clients in order to improve on their agricultural production and in marketing of their produce (Williams, 1989).

Knowledge and information are vital for people to respond successfully to the opportunities and challenges of social, economic, and technological changes, even those that help to improve agricultural productivity and rural livelihood knowledge. Information should therefore be effectively disseminated so that it becomes useful to people (Ajayi and Gunn, 2009).

A well-developed agricultural innovation is perceived not useful when the adoption rate is poor. Researchers should ensure therefore that their research products and outputs are disseminated to the end users and should not only focus on the research aspect of their work, but also on communicating their innovations and findings to users (Gathecha et al., 2012).

This study was on agricultural communication practices to increase wheat production in Ethiopia: The Amhara region is in focus. The study focused on the current ways in which farmers in the Amhara

[1] PhD candidate, Bahir Dar University, Department of Journalism and Communication, Bahir Dar; Kebri Dehar University, Kebri Dhar, Ethiopia. *Corresponding author*: ahmhus1432@gmail.com

region receive information from the government and the appropriate communication tools to get agricultural knowledge about wheat production.

Statement of the problem

Research institutions and development organizations have been developing many technologies capable of producing high productivity. To increase agricultural productivity, research outputs, farming technology, innovations, and other extension services should be disseminated to farmers using appropriate communication approaches (Lopez & Bruening, 2002; Masambuka- Kanchewa et al., 2020).

Van den Ban (1996) explained that agricultural communication helps farmers in decision-making process so that they can make informed decisions and realize their goals. Walter (1992) described that communication can never be overlooked as a tool of sustainable agriculture development. He further explained that communication of sustainable agriculture practices includes, creating and disseminating information about how to farm and consume sustainably, and also includes the information on increasing farmer participation in production research.

According to recent evidence, 83% of Ethiopia's total population lives in rural areas and relies on rainfed agriculture for a living (World Food Program, 2020). Ethiopia's economy is one of the most vulnerable in sub-Saharan Africa, with extremely low incomes and subsistence-level income (Giller, 2020; World Bank, 2020). Despite being endowed with untapped natural resources, Ethiopia has not been able to feed its population. Small-holder farmers cultivate crops on small plots of land using traditional agricultural practices. As a result, the country is dependent on commercial food imports and food aid (Diriba, 2020; World Food Program, 2020).

According to the report of the Ministry of Agriculture, in the past, Ethiopia imported more than 60% of its wheat needs from foreign markets. For this, Ethiopia may have to spend more than seven million dollars in foreign currency. To avoid this at an appropriate cost, it is planned to produce 108 million quintals of wheat in the 2014/2015 harvest season to cover the demand for wheat in the country. To achieve this, the 1.7 million hectare cluster is cultivated by using the most intensive resources correctly, improving the working method, using farm mechanization, pest and disease monitoring, weed monitoring, and harvest is monitored in cluster.

In agricultural communication, various studies have been conducted in agricultural. Among these studies, an analysis of communication approaches used in agricultural extension was conducted: the case of the Wolyta zone, southern Ethiopia and it was focused only on communication approaches. The finding indicated that the extension workers communicated with farmers by a top-down approach. And their recommendation for future research and the researcher decided to incorporate in this research were to identify the driving forces behind the adoption of top-down communication approaches and the impacts they have on the provision of quality extension services for insuring sustainable agricultural productivity. The other agricultural communication research was about agricultural communication: A theoretical perspective - It was focused on the importance of two-step flow theory and diffusion innovation theory for agricultural communication. However, this study focused on exploring current ways in which farmers received agricultural information from the government and appropriate communication tools for farmers to obtain agricultural knowledge and information on wheat.

Research objectives

General Objective

The general objective of this study was to explore the mechanisms and communication tools that farmers used to increase wheat production.

Specific objectives

- Assess the current ways in which farmers received agricultural information by the government.
- Identify the appropriate communication tools for farmers to get information about wheat.

Research Questions

- How did the government inform farmers?
- What were the appropriate communication channels for farmers to gain knowledge about wheat?

Theoretical framework

To study agricultural communication practices to increase wheat production, diffusion of innovation theories was used to explain agricultural extension processes.

Diffusion of Innovation Theory

The theory was established by Evert Roger in 1962. Roger (1983) defines diffusion as the process through which innovations can be transmitted amongst the people with the help of certain channels of the social system. Roger explained diffusion of innovation as a special kind of communication, through which messages related to new ideas are being communicated amongst the people. According to Roger, innovation is a new idea, practice, or object which is considered as new either by a single individual or a group of individuals who want to adopt it. Mass communication modes along with modern ICT modes like mobile phones, you tube, social networking sites do help in spreading awareness about new innovations, while interpersonal communication helps the individuals in the adoption of a particular innovation. Through interpersonal communication, adopters learn from each other's experiences with the new technology, which helps them to make decisions regarding the adoption of a particular product.

Roger gives five different stages to describe the process of diffusion of innovation. These stages are as follows:

1. **Knowledge**

In this stage, the individual is provided with the required knowledge related to an innovation. At this stage only information is provided to the individual about new innovation; no further knowledge is provided to the concerned people.

2. **Persuasion**

At this stage, individual or a group of individuals actually get interested in a particular innovation and try to explore more information related to that particular innovation.

3. **Decision**

In this stage, individuals compare the advantages and disadvantages of using an innovation under consideration. And also take a decision on the adoption or rejection of the innovation.

4. **Implementation**

This is the stage of using innovation practically. At this stage, individuals practically employ the innovation in their lives and try to find its benefits. They also try to find related information regarding the innovation.

5. **Confirmation**

At this stage, individuals finalize their decisions about carrying on with the innovation concerned or not. This decision can be based on personal experience as well as the experience of other people in the group. Various extension researches reveal that different sources of information are required to give initial peace of knowledge regarding the new innovation, as well as for making final decision regarding adoption or rejection of a particular innovation. In most of the countries, mass media plays an important role in providing initial information to the farmers, but farmers do refer to fellow farmers, extension workers or any other person of their trust before taking the final decision regarding the adoption or rejection of a particular innovation (Ban & Hawkins, 2002).

Research Methodology

Study Area

The Amhara National Regional State is one of the regional states in the Federal Democratic Republic of Ethiopia. With a moderately compact shape area of 161, 828.4 km2 located between 90-130 45 N and 360-400 30 E in North West Ethiopia, the region is bordered by four regional states, notably Tigray in the north, Oromya in the south, Afar in the east, and Benshangul-Gumuz in the south west, and North Sudan in the north west (ANRS BoFED, 2010).

The region, with an estimated population of about 17.2 million according to the 2007 census, is composed of 13 zones that include North Wollo, North Gondar, South Wollo, South Gondar, East Gojjam, West Gojjam, North Shewa, Oromo, Wag Himra, Awi, and Bahir Dar, the metropolitan city administrations of Gundar and Dessie, and 165 Woredas and 3,497 Kebeles. The specific study area is Kalu district (woreda), which is found in the South Wollo area of the Amhara region (Figure 1).

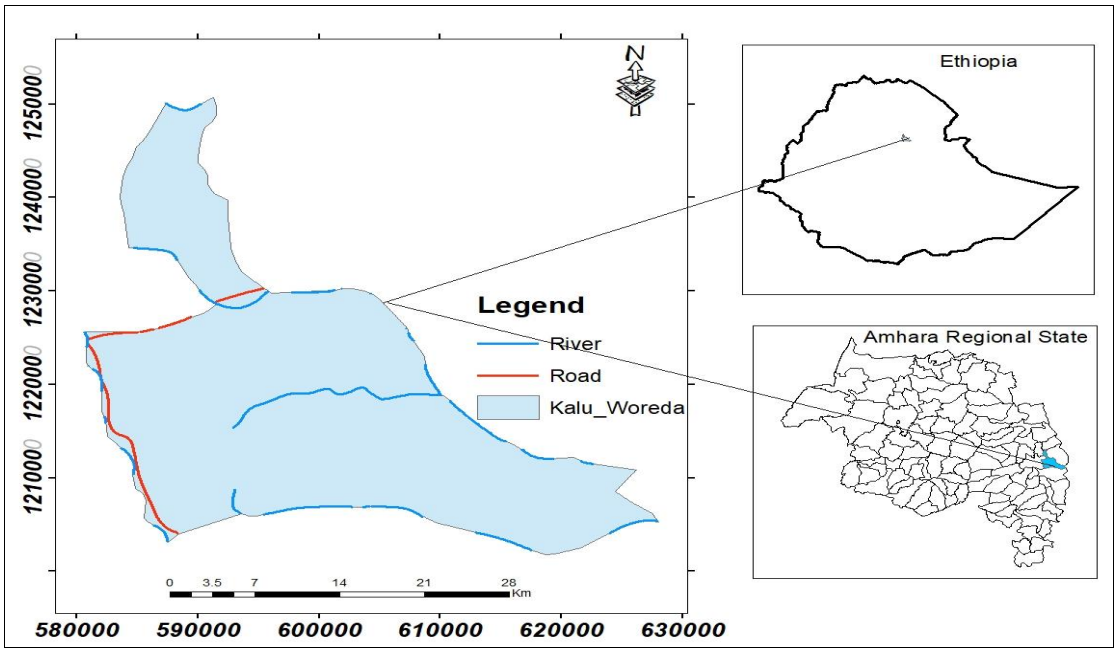

Figure 1. Map of the study area

Research paradigm

A research paradigm is a cluster of belief and dictates which for scientists in a particular discipline influence what should be studied, how research should be done, how results should be interpreted, and so on (Bryman, 1992).

An interpretive research design was employed to study the agricultural communication practice of farmers who produce wheat. Berryman (2019) believes that for interpretive researchers to find answers to qualitative questions, they need to structure their research questions in a way that focuses on understanding "how and why." Interpretations are related to the philosophical position of idealism and are used to combine different methods, including social constructivism, phenomenology, and hermeneutics; the method of rejecting objectivist views, meaning that meaning exists independently in the world (Collins, 2010; Kreuger, & Neuman, 2006). Based on this assertion, this research was analyzed in both written and oral discourses and interviews to understand the ways farmers are given information by the government and identified the communication tools that help farmers get knowledge about the production of wheat.

Research design

Interpretive researchers focus on qualitative rather than quantitative aspects or relationships (Wellen & Fraennkel, 2001). In this study, the researcher used qualitative approaches to analyze documents

about Ethiopia's agricultural extension strategy, farmer interviews and Ministry of Agriculture Speech about agricultural communication practices to increase wheat production in Ethiopia.

Sampling Techniques

The sampling technique that the researcher recruited to achieve both specific objectives of the study was purpose sampling. The Ethiopian agricultural extension strategy was deliberately selected. Similarly, a purpose sampling was recruited to select the South Wollo Zone as the study area among the 13 zones of the Amhara Region. The purpose of selecting the South Wollo Zone is because they were the best beneficiaries of dry season irrigated wheat from all zones. The researcher took three of the most productive wheat farm land clusters in the South Wollo Zone and interviewed three model farmers from the three clusters. The model farmers were selected based on the suggestion of the agricultural extension experts using snowball sampling. The one agricultural extension expert was purposively selected based on his long experience.

Data Collection Tools

Discourse, document analysis, and interview were used to collect data to study the current ways in which the government to increase wheat production in Ethiopia. According to van Dijk (2006), critical discourse analysis is primarily interested in and motivated by the endeavor to understand pressing social issues. According to Locke (2004), critical discourse analysis aims to systematically explore often opaque relationships of causality and determination between discursive practices, events, and texts, and wider social and cultural structures, relations and processes; to investigate how such practices, events, and texts arise out of and are ideologically shaped by relations of power and struggles over power. The discourse analysis used by the researcher was the speech given by the Ministry of Agriculture about wheat on Fana TV.

Document analysis is a systematic procedure for reviewing or evaluating documents, both printed and electronic (computer-based and internet-transmitted) material. Like other analytical methods in qualitative research, document analysis requires that data be examined and interpreted to elicit meaning, gain understanding, and develop empirical knowledge (Corbin & Strauss, 2008). The document analysis employed by the researcher was the Ethiopian agricultural extension strategy.

Megaldi and Berler (2020) argue that the semi-structured interview, despite its topical trajectories provided prior to the interview, enables a researcher to go deep for a discovery. The semi-structured interview conducted by the researcher was from farmers who saw dry season irrigated wheat in clusters.

Method of analysis

The data collected through discourse analysis, document analysis, and semi-structured interview were analyzed by using thematic analysis.

Data Presentations and Discussions

The data presentation and discussion reveal the discourse and perspectives of the document from Ministry of Agriculture about agricultural extension strategy, farmers, and speeches of State Ministry of Agriculture about the increment of wheat production. The first section describes how farmers are given information by the government. The second section presents the appropriate communication tools to obtain agricultural information and knowledge for farmers.

Ways in which farmers are given information to increase wheat production

One of the dominant communication approaches in agriculture is the extension approach, usually conceptualized as the diffusion approach of innovation. This theory conceives communication as a vehicle for spreading technological and social innovations that are perceived to bring about change in the rural community. The diffusion approach assumes that information is an essential recipe that has to flow to those in need to modernize them (Mefalopulos, 2008; Rogers, 1976).

However, the selection of appropriate communication approaches, tools and how to use them for agricultural development is considerably varied among communicators and development actors. These differences have emerged primarily due to differences in perceptions of the role, purpose, and

functions of communication in development. Some development organizations conceive of communication as a vehicle to tell people what to do; others see it as an opportunity for interaction, discussion, and the sharing of information (Machethe, 2004; Masambuka-Kanchewa et al., 2020).

As with other agricultural systems, in wheat productions, farmers were given information through the use of extension workers and follow agricultural extension strategies. Thus, the researcher tried to analyze the Ethiopian agriculture extension strategy, which was framed to implement from 2010 up to 2020.

> The Ethiopian government is committed to sustainably increasing agricultural production to meet the growing demand for food, industrial raw materials, and foreign currency earnings. In order to respond to the growing demand of different stakeholders, a dynamic and proactive extension system is needed. The robust and vibrant extension system is a key policy instrument for the necessary behavioral and attitudinal changes and creating demands on national agricultural extension programs (MoANR & ATA, 2017).

Development Agents as an Information Provider

As indicated in the Ethiopian agricultural extension strategy document, the Ethiopian government follows the agricultural extension system as a key instrument for the behavior and attitudinal change of stakeholders (farmers). This indicates that all agricultural knowledge and information flows through the pipeline that the government arranges through the use of extension workers. To achieve the transformation of agricultural knowledge and information in Ethiopia, the government used development agents (DAs). Approximately 21 development agents (DA) were assigned per 10,000 farmers, and even more in high-potential areas (MoANR & ATA, 2017).

Communication is a vital issue in agriculture, conveying improved and recommended agricultural practices through extension workers to clients in order to improve on their agricultural production and in marketing of their produce (Williams, 1989). According to the results of the interview with the agricultural expert, farmers get information mainly from agricultural experts. "Farmers get information mainly from the agricultural experts. In addition, farmers get information from television and radio programs" *(DAI).*

As indicated in the document prepared by the Ministry of Agriculture for agricultural extension services, development agents are agents to provide knowledge and information to farmers. However, as FI2 explained, development agents (DA) do not have enough information and advice on wheat production. There is no detailed support or information on the use of modern technology and ways of farming.

> In turn, the DAs do not have any advice or information about the production of wheat. They simply brought the wheat seeds and gave us fertilizer again and then made us sow in drips (FI2).

In addition, development agents in addition to providing information and knowledge about agriculture, deliver various agricultural tools and resources. Due to their overlap work, they did not follow up and support farmers with their knowledge and information effectively and adequately.

> The farm truck came through the development agents (DAs) and the land was plowed by using paying the money from our pockets. Then the seed was seeded. After that it was done through our own process, but no one came from the government and gave us any information (FI1).

> Even farmers are not happy with the service provided by development agents. The government assigned three DAs in a single kebele (village), and they go together. They seem to be assigned to take a salary, not those who work to bring about real change and achieve the planned goal. By this year, they had done nothing. The DAs come to cook their own wages, not to bring us change. The reason I said this is that they do not provide us with the proper knowledge and information. For example, there was a disease on the wheat. We called them and told them what this disease is. But they told us to use cow urine. This is traditional medicine, but we need the scientific one because they are educated (FI2).

However, it is recognized that the use of a single approach may not be sufficient to achieve development goals, as the farming industry attracts a diverse range of actors (Naiboka, 2014; Santucci, 2005). As a result, the use of integrated communication approaches is gaining acceptance to fill the gaps left by the use of a single communication approach. For example, top-down linear approaches may provide farmers with reliable, scientific, and expert information, whereas the bottom-up approach mobilizes farmers to participate in their own development processes. However, the use of new information and communication technologies provides avenues for the interactive exchange of information from multiple sources (Stacks et al., 2009).

The study revealed that development agents are individual agricultural professionals to provide agricultural information and knowledge to farmers. However, in practice, they do not provide the expected knowledge and information.

Farmers Training Centre as Agricultural Knowledge and Information Centre

The other way of giving information by the government to farmers is to gather farmers at the Farmer Training Centre. As clearly stated on Ethiopia's agricultural extension strategy, FTCs are places where development agents gather farmers and give agricultural information and knowledge on developing modern farmers who are able to harness positive changes in farming technology while also being able to cope with changing conditions and stresses.

> The Ethiopian agricultural extension system is heavily dependent on Farmer Training Centers (FTC) and trained DAs that provide extension support to farmers. FTCs serve as an entry point to provide efficient and effective extension services. FTCs should also serve as hubs for knowledge and information sharing and centers for promoting best practices (MoANR & ATA, 2017).

Although the Ministry of Agriculture explained that FTCs are places that are used to provide information and knowledge about agriculture using DAs to provide effective and sufficient extension services, in practice they are not well organized and fully staffed and they do not follow the directions established by the Ministry of Agriculture and do not provide information and knowledge to farmers. As the interviewee argued, more than FTC, modern farmers' farm land has become a model for better training and to formulate best practices.

> There is a training center for farmers in our area. But it is not as such functional. According to the expressions of DA, it is where farmers are encouraged, gained experience and information sharing (FI3).
>
> There is a Farmer Training Center, but until now there is no training or agricultural information. We have not done anything in practice (FI1).
>
> The house has been built, but we have not received training, experience, and information from it (FI2).

As stated above, FTCs are not strong as an institution and have a lack of various infrastructures and qualified manpower which will be an obstacle for farmers to properly control and obtain the necessary information and knowledge.

Documenting and Managing Information and Knowledge

The other mechanisms through those farmers receive information and agricultural knowledge was documenting and managing information and knowledge. As clearly stated in the strategy prepared by the Ministry of Agriculture, proper management and documentation of agricultural knowledge and information is helps to reach farmers and agricultural practitioners.

> Properly documenting and managing knowledge and information allows smallholder farmers and other practitioners to reach them in a timely manner, and this consequently increases agricultural production, productivity, and addressing food insecurity. Successful agricultural knowledge and information management requires strong institutions, infrastructure, facilities, and skilled human resources to generate, capture, store and disseminate tailored tailored services to all farming communities (MoANR & ATA, 2017).

Contemporary extension services that focused on the promotion of improved technologies and good agricultural practices to increase farmers' production and productivity were not enough to bring about a change in farmers' lives. Therefore, communication has been recognized as a crucial element in achieving agricultural development goals and is considered one of the triggering factors for promoting and facilitating development efforts. Empirical evidence suggests that agricultural development activities depend primarily on information exchange between and between farmers, on the one hand, and a wide range of other development actors. It is believed that development cannot be achieved unless all those involved are linked to addressing development problems at the local levels (López & Bruening, 2002; Masambuka- Kanchewa et al., 2020; Rodriguez & Andrade, 2018). As clearly stated in the Ethiopian Agricultural Extension Strategy, in the efforts to increase wheat production in the agricultural sector, only one body is not enough and communication has a great place.

> Current extension services typically focus on the promotion of improved technologies and good agricultural practices to increase the production and productivity of farmers without taking into account value addition and marketing. However, increasing production does not necessarily reward farmers with better income unless it is integrated into holistic value chain approaches (MoANR & ATA, 2017).

The effort of farmers and other supporting partners should be holistic. Information and a link with the government cannot bring about a change; instead, farmers should have other stakeholders and partners. Improve institutional arrangements, coordination, and linkages among key agricultural development partners.

> Addressing diverse and complex agriculture problems requires coordinated efforts of individuals, groups, institutions, and organizations at various levels (MoANR & ATA, 2017).

As the study confirmed, proper management of agricultural knowledge and information is one way of addressing information for small farmers and practitioners. This proper management of information needs coordinated effort of individuals, groups, societies, and institutions.

Monitoring and Evaluation as a Source of Information

The establishment of a participatory communication approach plays a vital role in improving farmers' life. According to the Ministry of Agriculture, establishing strong and dynamic result-based monitoring, evaluation, and learning a key tool to identify challenges, assess progress, and generate relevant and timely information for farmers. However, this important way is ignored at the district and Kebele levels.

> Monitoring, learning and evaluation (MLE) is a key tool for identifying constraints, assessing progress, and generating relevant and timely information to make informed decisions. Decisions change into actions when they are based on facts and realities on the ground. Currently, efforts are underway to implement MLE by different organizations. However, such considerations are missing to strengthen MLE at region and Woreda levels (MoANR & ATA, 2017).

The data obtained from the interview show that the monitoring and evaluation is fragmented and not sustained. In particular, the interviewees state that the professional supervision and support that should have been provided by agricultural experts is very little. This is a top–down flow of information from the government with minimal monitoring and support, but there is no bottom–up flow of information from farmers.

> The DAs did not follow up and support us with their knowledge and information. In a sense, they did not support and monitor what wheat needs (FI1).
>
> Both the land and the crop may have various problems. I think that if this problem is studied scientifically by taking information from farmers and monitoring it, changes are made and we can achieve the plan (FI3).
>
> They brought the improved wheat seeds and gave us fertilizer again and then made us sow in drips. This happened last year. By this year, they did nothing (FI2).

However, in the speech given by the government in various state media, the Ethiopian minister of agriculture said that it was possible to increase wheat production by providing better agricultural inputs and treating acidic soil.

> It has been tried to increase the yield per hectare by improving the use of inputs and treating acidic soil by using the black soil irrigation method to increase production. The 1.7 million hectare cluster is cultivated by using the most intensive resources properly, improving the working method, using farm mechanization, pest and disease monitoring, weed monitoring, and the harvest is monitored in a cluster (Minister of Agriculture).

The farmer who followed what the Minister of Agriculture talked about agriculture in the media were expressed bitterly that there are many agricultural inputs but have not reached them.

> When we follow the media, we see and hear that farmers are using pesticides or other farming methods. But we do not see development agents doing this. We also see that they treated the water-logged lands with lime and got good yield. In our area, we don't see government or development agents doing this (FI3).
>
> Also, those who follow the media well tell us that agricultural inputs have been brought down from the port and entered the country. If that is the case, I have an idea why it does not reach us properly (FI3).

On the other hand, the participatory communication approach assumes that bottom-up and horizontal communication are prerequisites for genuine development. It believes that dialogue and participation are crucial to empowering and mobilizing people. It asserts that simply disseminating information will not result in the desired structural transformation; therefore, development initiatives must involve and ensure the participation of local people (Mefalopulos, 2008; Santucci, 2005).

According to data obtained from the Ministry of Agriculture, farmers get agricultural knowledge and information in different ways: by using agricultural development agents, FTCs, by documenting and managing information and knowledge to reach smallholder farmers and practitioners in a timely manner and by using various mass media and ICT technologies. However, the results obtained from the farmers' interview show that DAs and FTCs do not provide them with sufficient agricultural knowledge and information, which also shows that they have difficulty in achieving the planned wheat production. The result shows that the DAs work to implement the orders from the government and are not willing to listen to the ideas and problems raised by the farmers and come up with solutions.

The appropriate communication tools for farmers to get knowledge about wheat production

One of the best ways to support the farming community in this regard is the pooling of local knowledge and other scientific research outputs into the information network at the community level (Agbamu, 2000). The availability of this information could help farmers better understand the existing knowledge gap and propose how to improve their farm practices by adopting technologies (Acunzo, 2014; Quarry & Ramirez, 2009). According to Acunzo (2014), during this process, much emphasis should be placed on the formulation of development messages and the selection of appropriate communication approaches that best suit the context of farmers.

However, the selection of appropriate communication approaches, tools and how to use them for agricultural development is considerably varied among communicators and development actors. These differences have emerged primarily due to differences in perceptions of the role, purpose, and functions of communication in development. Some development organizations view communication as a vehicle for telling people what to do; others see it as an opportunity for interaction, discussion, and the sharing of information (Masambuka-Kanchewa et al., 2020).

According to the agricultural extension strategy of the Ministry of Agriculture, the existence and effectiveness of an appropriate communication channel and communication tools will allow farmers to have new information. On the other hand, the dissemination of messages to the audience cannot bring the expected result if the messages are not delivered through the application and the use of appropriate channels.

> Having the right message, the right audience, and the right products may not achieve the intended results unless they are delivered through appropriate channels. The effectiveness of these channels can be enhanced by enabling farmers to have access to new information and communication technologies (MoANR & ATA, 2017).

According to the Ministry of Agriculture of Ethiopia, farmers are given information through indirect channels such as radio and television and direct verbal communication channels, training, conferences and social gatherings, followed by learning through direct observation.

> In Ethiopia, information reaches farmers mainly through indirect (radio & TV) and direct verbal communication channels, including training, meetings, conferences, and social gatherings, followed by learning through direct observation (MoANR & ATA, 2017).

However, to the results obtained from the interview of farmers, farmers say that they have never had any training, meeting, or conference regarding wheat. In contrast, farmers are getting a lot of information from various state media and news programs. Farmers follow the media such as Fana, Walta tv, Etv, Amhara Media Corporation and 8028 hotline service and get information about the experience of other areas.

> When we see the experience of other places in the media, we see that they treated waterlogged land with lime and got good results (FI3).

> In addition to DAs, I get information about wheat through Ethiopian television, Amhara mass media, and Amhara Media Corporation. The other way to obtain information on any type of agricultural and agricultural information is by calling the 8028 hotline service (FI1).

Srampickal (2006) argues that the various media in the communication process such as radio, television, print and the Internet present a clear meaning on issues about development to many people in a definite way as a major agent of development.

The other important communication instrument to obtain agricultural information from farmers to increase agricultural production and productivity, specifically wheat in Ethiopia, is ICT. As stated in the Ethiopian agricultural extension strategy, ICTs are an effective way to get information from farmers in a participatory way. It also has a video technology platform where farmers themselves show best agricultural practices to their fellow farmers by video.

> ICTs are an efficient and scalable way to provide information to farmers in an engaging form – for example, the "Digital Green video-based approach" is a technology platform where farmers themselves demonstrate best agricultural practices to their fellow farmers through videos and respond to the questions of each other (MoANR & ATA, 2017).

In addition to the above, it is written in the agricultural extension strategy of the Ministry of Agriculture that ICT will increase production and productivity by creating links from the federal to Kebele/FTCs regarding improved agricultural resources, technology, and market. It is also an important tool to connect and facilitate collaboration among the various actors in agricultural development.

> ICT improves technology-related advice, as well as location-specific market information on inputs and outputs through ICT kiosks linking federal systems down to Kebeles /FTCs. Establish data and performance management system: Online and offline application using ICT tools to easily connect and facilitate collaboration between the various agricultural development actors (MoANR & ATA, 2017).

In the agricultural extension strategy prepared by the Ministry of Agriculture, it is stated that ICT will perform multifaceted functions. Using various ICTs such as mobile phone, IVR 8028, video based extension approach, DIGSOFT, Digital Agriculture, farm radio, TV etc. has increased the institutional capacity and capacity of agricultural extension workers and farmers.

> Promote ICT-based technology promotion and dissemination: Using different ICTs like mobile phones, IVR8028, video-based extension approach, DIGISOFT, Digital Agriculture, farm radio, TVs, etc. Build institutional capacity of agricultural extension providers in ICT

application for example Woreda-net, school-net, agri-net, text message via smart phones, call center services, video supported teaching aids, etc. (MoANR & ATA, 2017).

According to data from the Ministry of Agriculture, social networks play an important role in the dissemination of agricultural knowledge and information to experts and farmers.

Use of social media: Social networks play an important role in the dissemination of agricultural knowledge and information among experts and farmers. Therefore, the use of different social networks such as Facebook, Twitter, LinkedIn, and WhatsApp will be promoted and used as needed (MoANR & ATA, 2017).

Communication tools based on the context of farmers are necessary to communicate and influence farmers about various innovations and research results in an appropriate manner. As in the study referred to by the Ministry of Agriculture, Ethiopian farmers have direct and indirect access to agricultural knowledge and information-direct like radio and television and direct verbal communication channels-training, meetings, conferences and social gatherings, followed by learning through direct observation. In addition, ICTs are an effective way of getting information to farmers in a participatory form.

Conclusions

Based on the study findings, several noteworthy conclusions emerge:

1. The study confirms that, to improve wheat production, the government relies on conventional means of information provision similar to those employed in various agricultural sectors. Extension services are identified as the predominant mode of providing information to farmers.
2. The dissemination of information through development agents (DAs) is acknowledged, but interviews with farmers and agricultural experts reveal a deficiency in the information provided by DAs. The study indicates that DAs tend to enforce governmental directives without adequately incorporating farmers' ideas and knowledge.
3. Another avenue of information delivery involves gathering farmers through Farmer Training Centers (FTCs) for training sessions, meetings, and conferences. However, interviews with farmers underscore that they have not received training or practical experience from FTCs, and model farmers' agricultural practices exceed the effectiveness of FTCs.
4. The study indicates that the government uses the media as an indirect means of providing agricultural information. However, farmers, as revealed in interviews, perceive the media as a more reliable source of information compared to that provided by DAs.
5. Taking into account the prevalence of electricity usage in rural areas of the Amhara region, broadcast media, including Amhara Mass Media, Amhara Media Corporation, Walta tv, Fanna Broadcasting Radio and TV, and ETV, are identified as the best communication tools for monitoring wheat production and acquiring valuable experience, knowledge, and information.
6. Beyond the broadcast media, the study recognizes the 8028 hotline service as the farmers' preferred communication tool, offering direct access to information on wheat production and being perceived as the most effective means of communication.

Declaration

The author declares that there is no conflict of interest.

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