



Review Article

Review on the Current Agricultural Extension System in Oromia: Operational Setup, Challenges and Interventions

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Abstract: This document reviews the agricultural extension system in Oromia examining its current status, challenges, and potential interventions. The agricultural extension system in Oromia, encounters several challenges in effectively delivering agricultural technologies and services to farmers. One significant issue is the reliance on a traditional model of technology transfer, which assumes a "one-size-fits-all" approach and fails to consider the diverse socio-economic and biophysical conditions across Oromia. Limited access to credit is another obstacle faced by farmers in Oromia, hindering their ability to adopt new technologies and practices. High input costs, such as seeds, fertilizers, and pesticides, further exacerbate the challenges faced by resource-poor farmers in the region. These factors contribute to low agricultural productivity and hinder sustainable rural development. Additionally, Oromia experiences issues related to land degradation and climate change, which have a detrimental impact on agricultural production. Soil erosion, deforestation, and water scarcity are among the environmental challenges that farmers must contend with. Climate change exacerbates these issues, leading to unpredictable weather patterns, increased frequency of droughts or floods, and the spread of pests and diseases. Moreover, agricultural extension staffs, such as Development Agents (DAs) lack proper support and incentives. They often face low salaries compared to other sectors and a lack of essential job amenities and benefits. Insufficient mentoring and guidance from Subject Matter Specialists (SMS) also impede the effectiveness of extension services provided by DAs. To address these challenges, the review emphasizes the need for a demand-driven extension approach in Oromia. This approach places the farm household at the center of decision-making and encourages farmer-led or participatory extension systems. By actively involving farmers in the process, extension services can be tailored to their specific needs, ensuring better adoption of technologies and practices.

Keywords: Extension, Farmers, System, Challenge, Intervention, Oromia

1. Introduction

Agricultural extension work in Ethiopia began in 1931 with the establishment of the Ambo Agricultural School which is one of the oldest institutions and the first agricultural high school offering general education with major emphasis on agriculture. In Ethiopia, agricultural extension is playing a crucial role in agricultural development and rural transformation. "Extension is understood as a policy instrument and legitimate tool for a government to bring about desired changes in political, socio-economic, cultural and

environmental aspects [2]. Ethiopian agricultural extension approach has been changing over time [14].

In the recent development of the Ethiopian Agricultural Extension System, the participatory approach is complemented by a scaling-up of technologies or the establishing of best practice for technology transfer at larger scales. In spite of the reforms, implementation of agricultural extension in Ethiopia still features the classical model of technology transfer adopted in the past. Farmers are compelled to adopt new practices recommended as "one-size-fits-all" often with little consideration of socio-economic and biophysical variations

across the country, which is contradictory to the “best-fits” approach to agricultural advisory services (AAS) [12]. A persistent problem that faced the Ethiopian agricultural extension is a failure to distinguish between behavioral change through “coercion”, and “voluntary” action [1].

There are a few assumptions as to why agricultural extension in Ethiopia is simultaneously employing contradictory approaches. Firstly, agricultural extension services are almost entirely provided and financed by the state [1]. Secondly, agricultural extension is used as an instrument for achieving the poverty reduction, food security and sustainable land-management goals of the country [23]. Thirdly, agricultural extension is a means by which the government can reach out to the majority of the population [10, 9].

Despite Ethiopia’s huge investment in agriculture, significant change in the provision of advisory services has not been achieved [3]. The available services and the quality of service providers are no more efficient than before. Furthermore, high input and low output prices, land degradation, climate change, and declining production are other barriers to agricultural development. Farmers access agricultural inputs in cash. Practically, this means they have limited access to credit, a lack which impedes technology adoption by resource-poor farmers.

Agricultural extension staffs are involved in multiple activities of agriculture and rural development. In particular, Development Agents (DAs) provide general advisory services in crop, livestock, and natural resource management at the level of the sub-kebele, the administrative unit directly below

the kebele [2]. However, DAs’ annual performance evaluation is worked out based on their respective disciplinary backgrounds (crop, livestock, or natural resource management). Therefore, their involvement and contribution as generalist DAs in their respective kebele is not eventually accredited [15]. DAs also lack proper mentoring support from Subject Matter Specialists (SMS) based in the woreda office of Agricultural Development [22]. On top of the aforementioned issues, agricultural staff in general is the most poorly paid members compared to other sector offices in the woreda. The DAs also often lack job amenities and incentives such as daily allowance or top-up, shelter, transportation facility, insurance, or field kits.

In case of Oromia region, even if efforts are there, agricultural extension systems and way of technologies deliver for farmers have many challenges. There were many studies conducted to identify the major challenges and the role of agricultural extension service in Ethiopia in general and in Oromia in particular but there is limitation of reviewing of current state of understanding on the roles, and challenges of agricultural extension service and not deeply show available opportunities that stakeholder and farmers have in their environment. Therefore, review of operational structure, challenges and opportunities is crucial for future policy formulation in the country in general and region in particular. This review has identified some of the roles, challenges and opportunities of agricultural extension service in Oromia.

Conceptual Framework of Agricultural Extension in Ethiopia



Source: Adopted from [24]

Figure 1. Theoretical framework of Agricultural Extension challenges, opportunity and roles.

2. Objectives

To identify the current status of the agricultural extension system in Oromia.

To identify the major challenges of the agricultural extension in Oromia.

To recommend possible areas of intervention in the agricultural extension system in Oromia.

3. Structure of Oromia Bureau of Agriculture (OBOA)

Regional Level Bureau of Agriculture: Oromia BoA is structurally organized under the Federal Ministry of Agriculture (MoA). As of 2022 the region has 21 administrative zones; 290 districts; and 6,468 rural kebeles. Oromia is the largest in the nation, out of thirty-two agro-ecological zones available in the country; eighteen are found in the region. This means the region is generally endowed with diversified agro-ecological conditions (the highlands, midlands, lowlands, the pastorals, and agro-pastorals), each with its unique characteristics, opportunities, and potentials for agricultural development. The remarkable agro-ecological conditions and good potentials in altitude, topography, soils, water resources, biodiversity, climate, and different farming systems enable the region to produce a variety of field crops, fruits, vegetables, roots, and coffee, and different livestock species. The region represents more than 40% and above aspects of agricultural statistics and other economic and social aspects of the country. For example, considering the 2017/18 main production season, the region constitutes; 45.8% cultivated areas, 49.61% grain production, and 42% of the holders [4]. Agricultural extension is one of the most important tools to improve the production and productivity of smallholder farmers in the region. Following the federal and regional structure, zonal and district agricultural offices are also organized from zones to the district office of agriculture and the lower administration unit, the kebele.

Zonal level office of agriculture: The zonal BoA is used as a bridge between the regional BoA and the district agricultural offices. The zonal BoA is intended to harmonize the top-down and bottom-up planning and coordinate implementations of the programs in their respective zones by linking the regions with the districts concerning national and regional development policies, strategies, and programs. Structurally, Zonal Agricultural Offices provide technical supports to districts and also compile reports from the districts and submit them to the region.

District- level office of agriculture: District agricultural office is an autonomous and powerful organ since the 1990s of the decentralization of the government. The decentralization strategy empowers districts to implement agricultural and rural development programs. This means the district is more responsible to execute the agricultural and rural development programs and harness changes at grass root levels. Districts

are organized in the form of a Cabinet, where the members are drawn from different sectors chaired by the head of the party at the Woreda level. Structurally, although districts are authorized and fiscally independent with their annual budget for personnel, infrastructure development, and provision of agricultural and rural development advisories, in practice, this is not always the case. The extension department organized under district offices provides training and technical backstopping to the DAs through the trained SMSs. The district extension department also oversees kebele level activities through its agricultural supervisors and DAs although they don't have that much role on DAs and take necessary actions wherever and whenever needed.

Kebele-level agricultural extension: Below the districts, kebele administration and agricultural offices are established. Just like that of districts, Kebele constitutes cabinets drawn from different sectoral offices but these offices are not available at kebele level. A kebele administration unit is a group of people led by the kebele administration who play a key role in making decisions on agricultural extension and rural development in the kebele related to their specific matters. Each kebele is further divided into farmer's development groups. The kebele extension unite is expected to play the leading and coordination role in all forms of technical support and administration to farmers through the local level institutions known as Farmers/ pastoral Training centers (F/PTC). Most rural Kebeles have an F/PTC built by the state, but with a high degree of variability in terms of their operation (see further explanations below under the subtopic of F/PTC).

Structurally, the zonal and district agricultural offices are the key architects behind the implementation of regional agricultural development and extension on the ground. In the structure, SMSs and DAs play a key role in the extension system, as the nexus between the system' and farmers while the party office usually authorized to make decisions on all aspects of the agriculture sector.

4. The Contributions of Agricultural Extension Services

Improve farming: Extension programs help farmers in Oromia to produce more food in a variety of contexts. High agricultural yields are experienced due to extension services. The extension service helps farmers increase their produce [5, 25, 26]. This means that extension services help farmers boost their yields. Furthermore, extension services boost land productivity [11, 8].

Improve commercialization: The fundamental goal of extension services is to improve the commercialization of farm products. As such, extension services help to improve the commercialization of agricultural products. It meets the demands of many parties in relation to the sale of agricultural products. Market orientation is aided by the extension system [26, 7]. As a result of the extension system, farm owners'

behavior shifts from basic consumption to market firmness. In addition, the extension also facilitates commercialization. It provides different kinds of awareness training about the importance of commercializing agricultural products.

Conserve natural resources: Natural resources are a vital foundation for agricultural production and environmental protection. The extension services currently emphasize the safeguarding of natural resources in Ethiopia. The extension system provides education on conserving natural resources [7, 17, 26]. This means that the extension organizes training about natural resource conservation. By the same token, the extension enhances the rehabilitation and conservation of natural resources [8].

Disseminate information: Information dissemination is the main aim of the extension system in farming areas. The extension services disseminate information to solve the problems of farmers in the farm fields. Some of the studies indicated that the extension system disseminates information to farmers [26]. The system transfers information relating to agricultural activities. And then, the extension system disseminates useful information to the farmers [7]. It provides information when it is needed urgently. For example, during pest outbreaks, rain, and floods the extension transfer various coping mechanisms to farmers.

Promote sustainable agricultures: The extension services contribute to sustainable agriculture production in Oromia. The extension system initiates the sustainable production of agriculture. Previous studies showed that extension services promote sustainable farming [26]. It supports the use of environmentally friendly technology during farming. It also encourages an economically viable production system across various locations. Furthermore, the extension system can help sustain farming [7]. It is supposed to contribute to maintainable farming, thereby establishing interventions in rural areas.

Educate farmers: The extension services provide informal education to farmers worldwide. It promotes the use of adult education, which has the potential to shape the attitudes and living conditions of farmers in rural areas. Some studies have shown that the extension system provides training to the farmers in the country [5, 11]. This indicates that various capacity-building training programs were given to the farmers in Ethiopia. In the same way, the extension system teaches farmers about technological utilization [7, 18]. This demonstrates that the extension system teaches farmers, to utilize adult education across the country.

Promote technologies: The extension services contribute to the promotion of farming technologies to farmers. The extension system encourages farmers to adopt new technologies in order to increase yields. The extension system helps some of these technologies be distributed to farmers [26,

5]. Sometimes, the technologies may be supplied freely without any expectation of cost on the part of the farmers. This could be to increase their motivation for new technologies. Besides, the extension system promotes technologies [18, 20]. It brings food packages to the farmers. Depending on the nature of the technology, this may be free or at a cost.

5. Major Challenges of Agricultural Extension System in Oromia

5.1. Organizational and Institutional Related Challenges

Organizational and institutional challenges in agricultural extension system in Oromia are categorized as follows:

Poor alignment and coordination: Structural linkage and coordination across all levels of the system are observed to be fragile and superficially connected meaning that the linkage is more operating through personal relationships and willingness. The main challenges related to linkages are:

Weak horizontal linkage: Within the structure, different agricultural and rural development sectoral offices (agriculture, health, education, finance, etc.) are established and operational with little coordination and linkages. Within the agriculture sector, there are general extension directors, commodity directors, team leaders, and process owners with loose connections and collaborations one with the other.

Ineffective linkage among value chain actors: Poor linkages and lack of trust among value-chain actors including input suppliers, producers, processing firms and exporters and other supporters undermine the development of a value-chain approach.

Low consideration of technical merit in assigning agricultural leaders: According to the study conducted by [24], agricultural leaders are not recruited on a technical merit basis while more focus has been given to political merits. Moreover, agricultural offices leaders' assignment at woreda level is usually conducted without the consultation of vertical structures (zonal and regional level).

A Limited number of senior and experienced staff: There are critical gaps in terms of having competent and well-trained human resources that effectively support the implementation of the agricultural and extension programs as desired. As it is clearly indicated in table 1 below BSc (40.8%) holders were at the largest educational level on the job while Level, Diploma and MSc holders followed in that order. However, the third-degree (PhD) holders are almost negligible when the job professionals are compared.

Table 1. Number of Staff in agriculture of Oromia region.

No	Category	PhD	MVM	MSc	DVM	BSc	Diploma	Level	Total
1	Regional	1	9	62	20	211	111	0	414
2	Zonal	1	22	188	68	826	33	0	1138
3	District	0	2	331	5	6575	1460	0	8373
4	Kebele level	0	1	23	5	4999	6318	9607	20953
Total		2	34	604	98	12611	7922	9607	30878

Source: Oromia BoA, 2021

Staffs turnover: Development workers faced various problems while rendering extension services to the farmers. Most of development agents are working under difficult and disadvantageous conditions characterized by lack of infrastructural facilities such as transportation problem, residential problem, remoteness, and electric/solar in rural area [16, 6]. The data from [4] indicated that Oromia region had deployed more than 21,540 DAs. However, only 15,670 was reported working in the region-showing 27 % turnover. This figure was very high as compared with international labor law (11%). Another problem identified is related to the tendency of changing agricultural office leaders more frequently especially at woreda level. For instance, according to [4] for some zone and Districts, the leaders of agriculture changed 3-4 times in a year. Based on this it can be concluded that frequent changes and reforms have created instability problems, loss of confidence in staff, and institutional memory.

Lack of adequate resources for Farmers/Pastoralists Training Center (F/PTCs): The lack of operational funds hindered F/PTCs from discharging their general roles and responsibilities of training, conducting a demonstration of new technologies, and showcasing best practices as desired to be. According to the FTC guideline [21], the basic physical infrastructure needed for the F/PTCs includes; classrooms, demonstration plots, DA housing, and offices, animal shade, irrigation, and/or water harvesting structure, workshop, meteorology, and permanent exhibition centers. However, because of limited resources, these materials were not delivered to F/PTC, except where some external resources are injected by NGOs. In some circumstances, FTC locations are used as storage for crops and other materials or serve as a source of income for the kebele administration instead of as a 'centre of participatory extension delivery' as intended.

Limited budget allocation: In the Oromia region, even if the budget allocated to the agriculture sector is slightly shown an increasing trend over the past years, the share of budget allocated to the agriculture sector in general and extension services providing institutions in particular, is observed to be very low. Because of the shortage of budget, more than 80% of the allocated budget to the districts goes to salary. In most cases, the operational budget allocated for one fiscal year has been finished in mid-year and sometimes even in four months. The allocated budget does not allow experts especially at zonal and district level to monitor field-level activities and take field level corrective actions.

Shortage of logistic and office facilities: Important office and field-level facilities such as tables, computers, stationery materials, printers, and internet facilities are lacking. The same is also true for logistics particularly fuels and field-level transports. According to [4], Oromia bureau of agriculture has a total of 205 vehicles, 14 big Lorries, 2,860 motorcycles, and 3,641 bicycles that give service for the entire region (zonal BoA, District BoA, and Kebeles). This clearly shows that there is a district that does not have at least one vehicle for field level operations- critically challenging the

implementations of programs and projects in the districts and region.

Low benefits and incentives for experts and DAs: Staffs in the agriculture sector are not given incentives and benefits. According to the assessment made by [13] at national level, DAs are not motivated and encouraged to properly discharge their duties, the motivation by the MoA and regional bureaus are extremely low and discouraging. According to this assessment, out of the 200 DAs who participated in this study, 41% responded as they were strongly dissatisfied, 50 % dissatisfied, and 6 % remaining neutral. According to the DAs, their highest dissatisfaction is related to poor incentives, low rate of per-diem, and lack of logistic and poor leadership at district levels. As a result, more than 92 % of DAs are found to be unhappy with their roles and hence the majority of them do not want to stay in the sector.

Weak monitoring, evaluation and learning system (MEL): There is no consistent, organized and strong MEL system within the agricultural extension. In most cases, the system is criticized for focusing on what has been achieved rather than on how and when things are done. Similarly, it focuses on collecting a bulk of information, mostly quantitative, with no automated centralized data management system. This has contributed to inefficient and ineffective data collection, analysis and feedback system. Moreover, the MEL system collects information related to impacts and outcomes, with limited or no feedback system. When feedback is given it is mostly one way, not immediate, and based on paper work which consumes time, energy and lacks consistency. Generally, the MEL process has not adequately incorporated farmer feedback in agricultural extension.

Institutional instability and frequent changes: The agriculture and rural development of the federal and regions are significantly affected by changes and frequent restructuring. Sometimes the agricultural sectors are merged for improved performance and at the other time; they are forced to divorce as a result of ineffectiveness and inefficiency. Often, the changes are done without any detailed assessment of the pros and cons of either for merging or separations of the sectors. A case example is that, during the last 50 years, the minister of agriculture (MoA) has changed 33 times and the changes were so frequent especially during the last 20 years. This means one minister only stays in his/her position for one and a half years on average. This shows that the ministers will change by the time they finish their learning cycle and ready to discharge their new roles. The same is also true for regions, zones, and Districts. For example, according to the information from the regions, for some zone and Districts, the leaders of agriculture changed 3-4 times in a year. Based on this it can be concluded that frequent changes and reforms have created instability problems, loss of confidence in staff, and institutional memory [4].

Top-down nature of the operational structure: According to many studies and reports conducted by [19] and [13] agricultural development and extension is highly structured in a top-down approach and supply-driven than demand-driven.

This means the decentralization concepts have not been well nurtured in a way that supports bottom-up planning and communicates the voice of farmers upwards. Even though, there are some improvements in participating farmers in technology demonstration and awareness there are still top down nature of planning and communicating extension service delivery system. Moreover, top-down approach is not only between DAs and farmers, but also between the woreda and the regional level offices. The service is predominantly supply driven in which technology packages are prepared based on the available new/improved technologies and attempts are made to transfer them to farmers.

Weak research-extension linkage: Research-extension linkage was generally weak and that neither research nor extension was sufficiently conscious of the need to understand the constraints and potentials of different farming systems as a basis for determining relevant technology and technology-development requirements. The problem has been compounded by the fact that that agricultural research and extension have been carried out by two different bodies with very limited contact and working relationships. Generally, the challenges with regard to research-extension linkage are listed as follows:

- 1) Limited capacity of initial technology multiplication linked with resource (land, finance) and technology limitation (outdated machineries and equipment).
- 2) Limited internal quality control system for multiplication of initial technologies specially quality control for basic seed multiplication.
- 3) Development agents that are expected to implement as per the extension package often face challenges of time of supply, quality challenges and required amount of inputs as per the package.
- 4) There had been little feedback from farmers to research institutes about disseminated research outputs due largely to the loose link between research and extension.
- 5) Limited awareness of farmers on the existence of different agricultural technologies.
- 6) Limited capacity of actors of the technology multiplication and delivery systems.
- 7) Current improved seed production and supply experiences are cereals dominated, largely ignoring other crops.

Limited functioning of farmers' extension groups: Farmers' extension groups can be used as platforms for promotion of agricultural extension services. In Oromia, previously farmers' extension groups were categorized as kebele extension unit, Zonal extension, development unit and one to five farmers' group. Extension delivery will be easier when farmers are organized in groups. It helps to reach large number of farmers with minimum cost, less work force and time when compared to individual communication method. It also provides an opportunity for farmers to work together to resolve their common problems and build their confidence through peer-to-peer learning. While the capacity of the groups is strengthened, it has an impact on the livelihood of individual members and their families through accessing better extension

services, technologies and harnessing joint learning. Farmers' extension groups are also valuable institutions to access resources such as credit, labor and information because of economies of scale, and enable farmers to forge stable relationships with suppliers and reliable markets. However, currently farmers' extension groups are not functioning as much as expected in Oromia.

5.2. Technical Related Challenges

Limited access to different agricultural knowledge and information: Poor information management systems have been one of the challenges preventing higher-level extension support organizations from facilitating learning and information sharing. As a result, there is no systematic capturing of demonstrated practices and lessons learned to develop replicable and scalable extension models (both within individual levels of the extension system and in developing a system-wide strategy).

Limited access to market information by farmers: Farmers need different kinds of information to make informed decisions on their agricultural activities and product types. Farmers have information on increasing the quantity of a product, but not on the quality requirements of consumers, processing firms and export markets, which is mainly caused a result of inadequate value chain approach. There is also poor coordination among the concerned institutions and offices in the provision of market information. This leads to the production of low quality products and low prices, and hence low benefits to farmers.

Limited extension services on food safety and quality production to farmers: Extension services package lack information related the required quality and standards of products farmers should produce, especially for produce that are sensitive to quality specifications such as vegetables, fruits, and dairy products. Due to lack of training and awareness farmers produces the products that fail to meet quality requirements either will fetch lower prices, or will be rejected altogether.

6. Recommendations/Possible Solutions

6.1. Organizational Structures and Linkages

Strengthening stakeholders' collaboration and networking through strengthening ATO cluster council (OATPC) at regional, zonal and woreda levels.

Strengthening the monitoring and evaluation of research-extension linkage activities (agricultural initiatives)

Select appropriate commodities to focus value chain and clusters approach.

Encouraging agricultural extension services bottom-up, grassroots extension program planning by farmers in order to make extension demand-driven, but also exercise supply-driven rather than top-down.

Encouraging market-driven extension systems which shifts agricultural extension from production to profitability and market orientation, and this focus tends to be more prevalent

for high-value crops, livestock, fisheries, or value added products.

Decentralize inputs marketing and distribution to solve the problem of untimely delivery and insufficiency of the quantity.

Create stable agricultural extension structures to ensure sustainable service delivery and effectiveness.

Decentralization of extension systems through transfer of specific decision-making functions to the kebele level starting from BoA units at Kebele level which is already declared by "Caffee Oromia."

Develop transparent and technical merit/competitive based system that enable leadership assignments in the agricultural sector.

Provide adequate support for technology multiplication, internal quality control system and delivery system.

Farmers' extension groups should get attention to be re-structured as kebele extension unit, zonal extension (Zoonii gandaa), agricultural extension team (garee ekistenshinii qonnaa) and agricultural production clusters.

6.2. Establishing Infrastructure and Facilities

Fulfill office facilities (computers, printers and internet facilities, field vehicles, motorcycles) at different levels through government and non-government organization support.

Establish facilities necessary for FTCs/PTCs for proper delivery of training and demonstration activities.

Increase sense of FTC ownership by farmers and improve FTC functioning and sustainability.

Fulfill facilities like housing, electricity/solar and others at FTCs/PTCs.

6.3. Human Capacity Development

Develop a road map or strategy for human capacity development as short term, medium-term, and long term plans with a focus on MSc and Ph. D. for effective implementation of agricultural development extension services.

Develop the capacity of DAs to the level that they can operationalize the FTCs/PTCs.

Create awareness among farmers on the overall importance of FTCs/PTC as technology demonstration sites.

6.4. Benefits and Incentives for Extension Workers and Budget for Extension Services

Motivate agricultural professionals through promotion, further education opportunities to enhance their professional commitments.

Develop a mechanism to incentivize experts, DAs, supervisors working in agriculture sectors,

Create conducive work environment to enhance their effectiveness in implementing agricultural extension services.

Standardize and keep uniform all the benefit packages (salary, incentives, promotions, housing, transport, health services and other benefits if any) for DAs, experts and coordinators.

Allocate sufficient budget and ensure transparency to agricultural extension services.

Prepare and allocate a transparent budget to the extension sector.

Allocating adequate funding for linkage activities at all levels, ensuring representation of farmers at all levels of Oromia Agricultural Transformation Partners Council (OATPC), making OATPC's real forums for consultation among different stakeholders (researchers, extension agents, NGOs, farmers, input suppliers etc.).

6.5. Others Issues to Give Attention

Improving access to market information by farmers Including food safety and quality as agricultural extension service package

Develop systems that support data reporting through strengthening monitoring and evaluation systems and put in place systems or techniques like RBM that counter-check results right on the ground by introducing GPS measurement, remote sensing such as Drone supported estimation, etc.

Improve knowledge and information management through digitalization and networking to disseminate best practices. For instance through TV program, Radios and mobile hotlines.

Develop proper policy, strategy and guidelines to promote innovative approach to agricultural financing and insurance for smallholder farmers.

Motivate resource-poor farmers, women, and youth farmers by creating access to financial facilities to invest for improved seeds, fertilizers, farm tools, and access to adopting good agricultural practices.

Conflicts of Interest

The authors declare no conflicts of interest.

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