# FARMERS' PREFERENCES AND UTILISATION TOWARDS AGRICULTURAL INFORMATION SOURCES: THE CASE OF WOLAITA ZONE, SOUTHERN ETHIOPIA

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## Abstract

The purpose of this paper is to identify farm households' preferences towards agricultural information sources and their usage in the Wolaita Zone, Southern Ethiopia. A proportionate sample of 364 farm households was selected using a systematic random sampling technique. A pre-tested semi-structured interview schedule was used to collect primary data during June and July of 2020. Descriptive statistics and bivariate analysis (t-test and chi-square test) were used to analyse the data and test the level of association between the dependent and independent variables. Three focus group discussions were held with progressive farmers and the data were thematically analysed. The results revealed that co-farmers, extension agents, and family members were the most preferred sources by respondents. This shows interpersonal and peer-to-peer methods are dominantly used by farmers in Wolaita Zone, Southern Ethiopia. To boost agricultural productivity and target communication campaigns, the government should devise a proper way of disseminating information to the farmers. Information should be available through the sources that have been used by the farmers considering how the messages are best suited to their context. Moreover, some potential sources such as research and academic institutions and mobile phones should be accessible to transform the current practices of farming.

**Keywords:** extension agents, farm households, information, information sources, development, communication, development organisations

## Introduction

The purpose of this paper is to identify farm households' preferences towards the agricultural information sources and their usage in the Wolaita Zone, Southern Ethiopia. A plethora of scholars have agreed that information is essential for successful farming, and information sources play a key role in communicating development messages to farmers (Duhan and Singh, 2017; Rahman et al., 2016; Sani et al., 2014). Agriculture is an information-intensive sector (Rutger, 2000). Agricultural productivity is determined by the role of communication together with other integral inputs and factors of production such as; land, labour, capital, and other managerial abilities (Duhan and Singh, 2017; Ichplani et al., 2018; Okigbo, 2017; Sani et al., 2014; Wulandari, 2015).

Information sources are institutions or individuals who create or bring about messages (Starasts, 2004). Information sources are crucial for agrarian development as agriculture is an engine of national development and determines the livelihood of the rural people in developing countries (Acheampong et al., 2017; Linh et al., 2016). Scholars such as Aidoo and Freeman (2016); Ichplani et al., 2018; and Rahman et al., (2016) opined that effective agricultural information facilitates informed decision-making at the farm household level and raises their quality of life. This denotes rural communication

needs to be given priority to bring an attitudinal change among farmers and boost their agricultural productivity.

For its optimum use, agricultural information has to fulfil the qualities of access, accuracy, currency, relevance, clarity, timeliness and must be cost-effective for users (Aidoo and Freeman, 2016; Duhan and Singh, 2017; Özcatalbas et al., 2018; Vidanapathrina, 2012). From the users' perspective, the information should be adequate, understandable, well interpreted, and attract their attention during the communication process to bring feasible solutions to their needs and interests (Sani et al., 2014).

It is increasingly acknowledged that the right information from the right sources at the right time can bring a positive change among farmers (Sani et al, 2014), and it determines the success and failure of the farming enterprises (Adio et al, 2016; Opara, 2008). When the agricultural information is aligned with the farmers' local needs and offers a more explicit treatment for technical content in a local context, it motivates them to adopt desired change (Fawole, 2008; Rahman et al., 2016; Sani et al., 2014).

This, therefore, indicates agricultural information delivery requires recognition of the needs of the farmers and determination of how best to provide them with the information they need. However, achieving this entails a communication platform that triggers linkages between the farmer, extension, education, research, and other communication modalities that are essential to elicit an easy flow of information among the actors.

Ethiopia is a country where the vast majority of the agrarian population is poorly educated and/or illiterate and living in areas where access to conventional media is highly limited. Though the majority of the population is engaged in agriculture, the country has not yet ensured food security. This has been widely constrained by the agricultural extension system currently in use (Berhane et al., 2018; Hailemichael and Haug, 2020; Leta et al., 2017; Leta et al., 2020; Yigezu, 2021). The current extension system has been impeded with inflexible delivery of extension service, overburdening of extension workers with non-extension activities, lack of facilities in farmer training centres, and poor research-extension linkages. These scenarios widened the gap between the need and the availability of agricultural information for the farmers.

Similar to other parts of Ethiopia, rain-fed subsistence farming is commonly practised in the Wolaita zone, Southern Ethiopia. This area is increasingly vulnerable to droughts and categorised into highly food-insecure areas in the country. Wolaita Zone is also one of the most densely populated zones with 750 persons/km2 (Gebru, 2017; Gecho, 2017). This necessitates increasing agricultural production to improve the livelihoods of the community. To this end, farmers' poor access to agricultural information is identified as a factor leading to poverty while effective utilisation of information is considered an important entity for agricultural production (Anaglo et al., 2020; Khapayi and Celliers, 2016).

A better understanding of the current farmers' agricultural information sources and their preference patterns could support the extension system and those organisations to better target their communication campaigns. Moreover, it could trigger an easy flow of knowledge and information among farmers and development organisations. It also enables policymakers and the government in designing appropriate policies and agricultural programs that meet the needs of the farmers. Considering this, the present study addresses the following research questions: What information sources are used by farmers? Which agricultural information sources are preferred by farmers and how do the farmers use them for agricultural practices? Specifically, this study was set out to:

- identify the farmers' preferred sources of agricultural information and their utilisation in Wolaita Zone, Southern, Ethiopia, and
- determine the relationship between personal and situational characteristics of the respondents and their preference for sources of information.

**Methods**

This study was conducted in the Wolaita Zone of Southern Ethiopia. Wolaita Zone is located between 037°35′–037°58′E and 06°57′–07°04′N. It covers a total area of 4,511 km$^2$ and about 17.3% of the population live in urban areas while 82.7% live in rural areas (Gebru, 2017; Gecho, 2017). Wolaita Zone is categorised into three ecological zones: Kola (lowland <1500m above the sea level), Woina-Dega (mid-highland 1500–2300 m above the sea level), and Dega (highland >2300m above the sea level) (Laekemariam et al., 2016, Hayilu et al., 2017).

The population for this study are farm households residing in Wolaita Zone. Multi-stage sampling was used to select the study settings and subjects. First, based on proximity and distance from the centre (nearest, middle and farthest), three districts: *Duguna Fango, Boloso Sore, and Sodo Zuria* were purposefully selected to represent the Wolaita Zone. Within the respective districts, *Kebeles,* which are the smallest administrative unit (structure) in Ethiopia, were also classified again into three clusters. Thus, nine *Kebeles* were selected for the study. The list of farm households was obtained from the *Kebele* administration and then the sample unit (households) per *Kebele* was determined using proportional to sampling techniques. Finally, a systematic sampling method with every 5th value in the list was employed to pick the sample respondents in each *Kebele* by using Kothari's (2004) formula.

A total sample of 365 farm households with a door-to-door interview schedule was administered during June and July of 2020. The questionnaire involved both open-ended and close-ended questions. The data collected were analysed using the Statistical Package for Social Sciences (*SPSS Version 26*). The data analysis involved descriptive statistics and bivariate analysis (*t-test and chi-square test*). By using a semi-structured interview, three focus group discussions consisting of five to eight homogenous members were held with model farmers in respective districts. The focus group members were selected as per expert elucidation and their agricultural profile. The data obtained were thematically analysed.

## Results and Discussions

As indicated in Table 1, the average age of the respondents was 45.6 years and it varied between 20 and 90 years. The majority of the respondents were below the age of 64 years. This shows most of the respondents were within the active labour age range. Table 1 presents descriptive statistics of continuous explanatory variables while Table 2 shows descriptive statistics of categorical variables.

**Table 1:** Descriptive Statistics of Continuous Explanatory Variables (n=364)

| Variables | Mean | Std. | Min | Max |
|---|---|---|---|---|
| Age (years) | 45.6 | 12.75 | 20 | 90 |
| Farming experience(years) | 28.1 | 12.93 | 3 | 70 |
| Land size (hectares) | 0.52 | 0.41 | 0 | 4 |
| Livestock (TLU) | 1.8 | 1.58 | 0 | 13 |
| Distance to Farmers' Training Center (kilometres) | 2.4 | 1.19 | 1 | 8 |
| Distance to urban (kilometres) | 12.5 | 11.05 | 0 | 46 |

*Source*: Survey Data, 2020

Gender is among the important variables which may influence the farmers' utilisation of agricultural information sources. As indicated in Table 2, out of the total respondents, 76.4% were male and 23.6% were female. Results showed the vast majority (77.3%) of the respondents were married. The other characteristic worthy to note is the educational status of the respondents. More than half (55.2%) were illiterate and the majority of the respondents have attained a low level of education. As shown in Table 1, the average farming experience of the respondents was 28.1 years with a maximum of 70 and a minimum of 3 years. The average size of farmland owned by the respondents was 0.52 hectares. This implies there is a scarcity of farmland in the study area to produce sufficient food for consumption.

In the rural context, language emerges as a key factor for effective communication to facilitate a common understanding of development messages that has been delivered by development organisations. As presented in Table 2, the majority (55.5%) of the respondents could only understand the local language (Wolayttato), while very few (4.9%) of the respondents could understand the Amharic (national language). These imply that more than half (55%) of respondents could not accurately understand the development messages that have been disseminated other than in Wolayttato (local language).

The present study found that 64.7% of the respondents did not get access to farm-related training. This might be due to unavailability or poor facilities at the farmers' training centres together with the development agent's inability to reach farmers at the grassroots. As indicated in Table 1, the mean distance of the farmers' training centre from respondents' residences was 2.44 kilometres. The average

distance of the respondents from the urban centre was 12.5 kilometres and this shows that respondents travel long distances from their residences to urban centres.

**Table 2:** Descriptive Statistics of Categorical Variables (n=364)

| Variable | Category | Number | Per cent |
|---|---|---|---|
| Gender | Male | 278 | 76.4 |
| | Female | 86 | 23.6 |
| Education | Illiterate | 201 | 55.2 |
| | Primary | 96 | 26.4 |
| | Secondary | 50 | 13.7 |
| | Diploma & above | 17 | 4.7 |
| Marital Status | Married | 282 | 77.3 |
| | Single | 11 | 3.0 |
| | Divorced | 27 | 7.4 |
| | Widowed | 44 | 12.1 |
| Language | Wolayttato | 202 | 55.5 |
| | Amharic | 18 | 4.9 |
| | Both languages | 144 | 39.5 |
| Training | No | 236 | 64.7 |
| | Yes | 128 | 35.1 |
| Membership | No | 14 | 3.8 |
| | Yes | 350 | 95.9 |
| Extension visit | No | 33 | 9.0 |
| | Yes | 331 | 90.7 |
| Credit Service | No | 232 | 63.6 |
| | Yes | 132 | 36.2 |
| Off-farm participation | No | 152 | 41.8 |
| | Yes | 212 | 58.2 |

*Source*: Survey Data, 2020

Respondents' Sources for Agricultural Information

This section presents respondents' agricultural information sources and their preference patterns. Table 3 describes the distribution of respondents by agricultural information sources. The result indicated 95.6% of respondents preferred co-farmers, 95.3% preferred family members while 94.8% and 90.7% of the respondents preferred extension agents and community meetings as sources of information, respectively. This might be due to the availability of co-farmers and family members in the locality at the time when farmers need information. This denotes farmers in the Wolaita zone mainly use traditional interpersonal sources for their agricultural information. Conversely, Kaske (2020) reported development agents, local leaders, neighbours, and family members were preferred by farmers in selected zones of southern Ethiopia.

However, model (progressive) farmers during focus group discussions revealed that extension agents and non-governmental organisations were their most preferred sources of agricultural information. The following is an excerpt from a discussion with model farmers:

> *Extension agents are our major conveyers of farm information and their contribution is eminent. Extension agents always give us a piece of updated information regarding our farming. For instance, they often train us how to prepare our lands, use fertilizers and pesticides. They also brief us about modern farming technology and extension packages including livestock management. Non-governmental organisations have also contributed a lot to changing our farming practices in many ways. They offer material as well as technical support to fill our skill gaps. Source: focus group member*

The above excerpt indicates extension agents and non-governmental organisations were the most preferred by the model (progressive) farmers for agricultural information. The model farmers further explained that after acquiring the information and knowledge from these sources, they often

communicate it to others in the village (vicinity) through *one to five networks*. The network refers to a structure where one member of the group would recruit four (sometimes more than five) members to share knowledge and information that emerge from the local government. This implies model farmer-based sharing of knowledge and diffusion of information has been widely practised in the Wolaita Zone of Southern Ethiopia.

**Table 3:** Distribution of respondents by preferred sources of agricultural information (n=364)

| Farmers' information Sources | Frequency | Per cent |
|---|---|---|
| Co-farmers | 348 | 95.6 |
| Family members | 347 | 95.3 |
| Extension Agents | 345 | 94.8 |
| Community Meetings | 330 | 90.7 |
| Model Farmers | 274 | 75.3 |
| Village leaders | 274 | 75.3 |
| Woreda/zonal officials | 184 | 50.5 |
| Input suppliers | 95 | 26.1 |
| Academic Institutions | 76 | 20.9 |
| NGO's | 75 | 20.6 |
| 8028 free call lines* | 38 | 10.4 |

*Source*: Survey Data, 2020
*\*8028 free call line: It is a hotline that shares agricultural knowledge and information to the farmers in local languages via text and interactive voice messages*

On the other hand, respondents have shown a low usage for input suppliers (26.1%), NGOs (20.6%), academic and research institutions (20.9%), and 8028 free call lines (10.4%). The 8028 free call lines were the lowest among others. This might be due to the low number of mobile telephone ownership (33.8%), and respondents' high level of illiteracy (55.2%) along with the lack of ICT infrastructure and electricity. The respondents' low usage of academic and research institutions denotes modern farming practices, agricultural technologies, and other relevant farming information that have been diffused from education and research were insignificant.

Regarding this, model farmers were interrogated on how they communicate farm-related information with educational and research institutions. One of the discussants disclosed their interaction as follow:

> *… Occasionally, experts from research institutions have visited us. Most of the time, they come to us either to introduce new research findings and improved agricultural technologies or to see the progress made so far. But still, I didn't interact with anybody from academic or educational institutions. ...Of course, not only me but also many of us. Source: focus group member*

From the above extract, it is possible to deduce that farmers, even model (progressive) farmers have not been connected with educational and research institutions to bring the desired change. This implies a weak linkage among farmers, research, and the education system.

In the Ethiopian context, the extension system remains a critical tool for agricultural information as guided by the extension policy of the country (Abebe, 2018; Berhane et al., 2018; Welteji, 2018). The respondents were asked how they obtain agricultural information from extension agents. The finding shows that the vast majority (81.3%) of respondents obtain agricultural information through community meetings while 20.3% receive information during a farm visit and 13.2% via mobile phone. This implies extension agents dominantly use a group method to communicate agricultural information. The possible reason for this might be poor extension facilities and lack of modern communication channels to reach the rural masses at the time. This finding coincides with Kaske (2020) who reported face-to-face communication with extension agents either often or sometimes depending on their availability.

In terms of using extension information, 73.4 % of the respondents perceive the information did not satisfy their information need and 64.0 % replied they receive late feedback from extension agents.

Besides, 42.6% of them responded they were curious about the credibility of information and 35.7% of them did not understand the messages delivered by extension agents.

## Relationship between Information Sources and Personal Characteristics of Respondents

The personal characteristics of the respondents considered in this study were gender, age, marital status, farm experience, educational level, and language ability of the respondents. Although a significant chi-square statistic suggests a relationship exists between two variables, it does not describe the strength of association between the variables (Cohen, 2008). In this study, therefore, Cramer's V is used to supplement the chi-square test of independence to measure the strength of association between categorical variables and information sources.

Table 4 presents the chi-square test result while Table 5 presents the t-test results of continuous variables. As shown in Table 4, there was a moderate association between gender and accessing information from co-farmers (Cramer's V of 0.11) and a significant association between 8028 free call lines (Cramer's V of 0.48). The implication is male household heads tend to have more access than female household heads to get farm-related information from co-farmers and 8028 free call lines. But gender was not significantly associated with using other information sources such as; extension agents, academic institutions, and model farmers.

As presented in Table 5, this study found no significant difference between age and using agricultural information sources except 8028 call lines. The average age of respondents who accessed agricultural information from the 8028 free call line was 41.6 years compared with 46 years for those who did not. The significant difference in the age of respondents was (t=2.05) at a 5% significance level. This implies that the younger respondents access 8028 free call lines more than the elders. This result coincides with Beshir et al., (2015) who found farmers' access to agricultural information was unlikely to be influenced by their age.

Marital status was strongly associated with using information from co-farmers (Cramer's V of 0.22) and moderately associated with extension agents (Cramer's V of 0.12) and 8028 free call lines (Cramer's V of 0.14). However, marital status was not associated with other sources of information at a significant level. This implies married heads of households have a high possibility for accessing farm information from co-farmers and 8028 free call lines than other categories of marital status. This finding corresponds to Beshir et al., (2015) who found married farmers had relatively better access to agricultural information than others in the central rift valley of Ethiopia. The study by Fawole (2008) also reported marital status was significantly associated with farmers' information source preference and usage.

On the other side, the educational level of respondents was strongly associated with using information from academic institutions (Cramer V of 0.25) and 8028 free call line (Cramer V of .013). However, no relationship was found between the educational status of respondents and accessing information from extension agents, co-farmers, family members, and model farmers. This denotes the increase in the educational level sets farmers in a better position to get agricultural information and new technologies from more advanced sources. This finding coincides with Beshir et al., (2015), who found education has positively influenced the use of communication technology for agricultural information in Ethiopia. It also corresponds with the study of Rehman et al., (2013), who reported a significant relationship between the educational level of the farmers and their access to agricultural information sources.

This study found no significant difference between information sources and farm experience and land size of the respondents. Beshir et al., (2015) reported farming experience had no significant relationship with respondents' access to information sources. This denotes that despite their differences in farm experiences and land size, respondents can utilise all the available agricultural information sources. As shown in Table 4, the language ability of the respondents was moderately associated with using farm information from extension agents (Cramer's V of 0.14) and 8028 free call lines (Cramer's V of 0.13). This signifies respondents who understand more than one language (Wolaitato and Amharic) would have got more access to extension agents and the 8028 free call lines. However, there was no significant association between language and using co-farmers, family members, academic and research institutions, and model farmers.

**Table 4:** Chi-square Test Result of Categorical Variables with Information Sources (n=364)

| | Farmers' Sources of Agricultural Information | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Extension | | Co-farmers | | Family members | | Academic Institution | | Model Farmers | | 8028 call lines | |
| | $X^2$ | Cramer Value | $X^2$ | Cramer Value | $X^2$ | Cramer Value | $X^2$ | Cramer Value | $X^2$ | Cramer Value | $X^2$ | Cramer Value |
| Gender | 1.94 | 0.07 | 3.75 | 0.11* | 0.11 | 0.01 | 0.1 | 0.07 | 1.49 | 0.06 | 9.59 | 0.48** |
| Education | 3.43 | 0.09 | 3.18 | 0.09 | 0.86 | 0.04 | 22.9 | 0.25** | 2.92 | 0.09 | 31.0 | .013* |
| Marital Status | 5.4 | 0.12* | 16.59 | 0.21** | 1.10 | 0.05 | 1.56 | 0.06 | 1.91 | 0.07 | 6.9 | 0.14* |
| Language | 6.83 | 0.14* | 0.91 | 0.05 | 0.14 | 0.02 | 0.68 | 0.04 | 0.26 | 0.03 | 6.3 | 0.13* |
| Training | 3.30 | 0.09 | 3.77 | 0.10* | 6.70 | 0.14* | 0.78 | 0.05 | 3.78 | 0.10* | 4.1 | 0.12* |
| Institution | 7.73 | 0.15* | 3.39 | 0.09 | 0.20 | 0.02 | 0.52 | 0.04 | 1.61 | 0.07 | 1.7 | 0.07 |
| Ext visit | 35.7 | 0.31** | 9.9 | 0.17** | 4.53 | 0.11* | 1.69 | 0.07 | 1.45 | 0.06 | 0.7 | 0.05 |
| Credit access | 0.19 | 0.02 | 0.01 | 0.06 | 0.18 | 0.03 | 9.42 | 0.16** | 0.85 | 0.05 | 0.1 | 0.04 |
| Off-farm | 0.97 | 0.05 | 0.46 | 0.03 | 0.21 | 0.02 | 5.87 | 0.13* | 0.78 | 0.04 | 0.01 | 0.02 |

*Source*: Survey Data 2020. *The significance value (sig.) is compared with $\alpha = 5\%$ or $10\%$ level of significance to check if there is a significant association between variables and agricultural information sources. If sig. value is less than $\alpha = 5\%$, then there is an association between variables otherwise there is no association between agricultural information sources and categorical variables. Statistically significant values were denoted \*\*and \* revealing that there is a significant difference at 1% and 5% levels.*

**Table 5:** T-test Result of Continuous Variables with Agricultural Information Sources (n=364)

| | Extension agent | | | Co-farmers | | | Family members | | | Model farmer | | | Academic institutions | | | 8028 free call lines | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | No | t-value | Yes | No | t-value | Yes | No | t-value | Yes | No | -value | Yes | No | t-value | Yes | No | t-value |
| Farm exp (years) | 27.9 | 31.3 | 1.09 | 28.2 | 25.69 | -0.77 | 27.9 | 32.1 | 1.33 | 28.53 | 26.82 | -1.01 | 27.76 | 28.2 | 0.26 | 25.76 | 28.38 | 1.18 |
| Age (years) | 45.4 | 49.9 | 1.51 | 45.5 | 47.4 | 0.56 | 45.51 | 47.5 | 0.69 | 45.97 | 44.50 | -0.95 | 46.14 | 45.47 | -0.41 | 41.61 | 46.08 | 2.05* |
| Land size (hectares) | 0.52 | 0.47 | -0.51 | 0.52 | 0.53 | 0.09 | 0.52 | 0.49 | -0.29 | 0.52 | 0.54 | 0.36 | 0.47 | 0.53 | 1.13 | 0.60 | 0.51 | -1.22 |
| Livestock (TLU) | 1.79 | 1.75 | -0.11 | 0.0 | 1.81 | -1.1 | 1.80 | 1.55 | -0.64 | 1.81 | 1.73 | -0.42 | 2.05 | 1.72 | -1.62 | 2.79 | 1.67 | -4.22** |
| Distance to FTC (kilometres) | 2.45 | 2.26 | -0.67 | 2.46 | 2.13 | -1.09 | 2.46 | 2.18 | -0.94 | 2.49 | 2.31 | -1.20 | 2.42 | 2.45 | 0.17 | 2.68 | 2.41 | -1.32 |
| Distance to Urban (kilometres) | 12.53 | 12.89 | -0.70 | 12.24 | 19.4 | 2.57* | 12.59 | 11.88 | -1.23 | 12.07 | 14.04 | 1.47 | 9.93 | 13.24 | 2.34* | 8.16 | 13.06 | -1.32 |

*Source*: Survey Data 2020. *Significant values were denoted \*\* and \* revealing that there is a significant difference at 1% and 5% levels.*

Relationship between Information Sources and Situational Characteristics of Respondents

Situational characteristics of the respondents considered in this study were land size, livestock ownership, extension visit, access to training, institutional membership, off-farm activities, credit access, distance to the farmers' training centre, and distance from urban centres.

This study found no significant difference between land size and farmers' information sources. Similarly, Beshir et al., (2015) found no significant difference between land size and farmers' information sources. On contrary, there was a significant difference in livestock ownership of respondents and using 8028 free call lines for agricultural information. As shown in Table 5, there was a significant difference in livestock ownership of respondents who accessed information from the 8028 free call line and those who did not (t=-4.22) at a 5% significance level. The average livestock holding of respondents who accessed agricultural information from the 8028 free call line was 2.79 while it was 1.67 for those who did not. This implies that the average livestock holding of respondents who access information from this source was larger than those who did not access it.

The result of chi-square analysis in Table 4 indicates extension visit was strongly associated with respondents' usage of extension agents (Cramer's V of 0.31), co-farmers (Cramer's V of 0.17), and moderately associated with family members (Cramer's V of 0.11). Correspondingly, training was moderately associated with co-farmers (Cramer's V of 0.10), family members (Cramer's V of 0.14), model farmers (Cramer's V of 0.10), and 8028 free call line (Cramer's V of 0.12). This might be because access to training enhanced the awareness of the farmers regarding the utilisation of information from multiple sources for better agriculture.

The respondents' membership in social institutions was moderately associated with accessing information from extension agents (Cramer's V of 0.15) at a 5% significance level. This might be because respondents' engagement in social institutions improves their consciousness to use the extension information for their farming. Using academic institutions for agricultural information was significantly associated with access to credit service (Cramers's V of 0.16) while it was moderately associated with respondents' involvement in off-farm activities (Cramers' V of 0.13).

The results show a significant difference between the distance from the urban centre and using information from co-farmers (t=2.57) and academic institutions (t=2.34). The average distance from the urban centre for the respondents, who accessed academic institutions for agricultural information was 9.9 kilometres, whereas, the average distance for those who did not was 13.2 kilometres. This indicates that the nearer the respondent to the urban centres, the higher the possibility to access academic institutions for agricultural information. This denotes academic institutions reach farmers who are nearer to them than those in remote areas. However, there is no significant difference between respondents' distance to the farmers training centre and their information sources usage.

**Conclusion and Recommendation**

This study analysed farmers' agricultural information sources and the preferences pattern among farmers in Wolaita Zone, Southern Ethiopia. The results indicated co-farmers, family members, extension agents, and community meetings were the most preferred sources by farmers in the Wolaita Zone, Southern Ethiopia. Based on this, it is possible to conclude that interpersonal and peer-to-peer methods are dominantly used by farmers and they are robust for delivering agricultural information. However, some of the potential sources like academic and research institutions, mobile phones (8028), and NGO's which are believed to transform the traditional practice of farming were not widely used by the farmers. The extension system has a leading role in sharing knowledge and information but it has been impeded by challenges that limit the effective delivery of information. The vast majority of farmers have been accessing extension information during community meetings gathered at Kebele. This might be due to constraints of poor facilities to reach the farmers at the household level.

Based on the major findings, the following recommendations were made to boost agricultural productivity and foster the farmers' utilisation of agricultural information. The information should be available through the sources that have been used by the farmers considering how the messages are best suited to their context. Some potential sources such as; academic and research institutions, and mobile phones should be accessible to the farmers to transform the current traditional practices of farming. In

this regard, the linkage between farmers and academic and research institutions should be improved to facilitate the sharing of knowledge and information. On the other hand, the policymakers should design an information dissemination strategy that triggers the availability of the information to farmers at the grassroots.

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