

Sources of agricultural information used by cowpea farmers in Rimi Local Government Area of Katsina State

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Abstract. Agricultural information provided to farmers at the appropriate time, in the right format and from reliable sources is very vital for improving agricultural production. This study aims to identify sources of and preferences towards agricultural information among cowpea farmers in Rimi Local Government Area, Katsina State. Questionnaires were administered to 150 randomly selected farmers from five communities in the area. Descriptive statistics were used to analyze the data. It was found that the major sources of information to the respondents were fellow farmers (40%) and radio (30%), while only 10% of the farmers obtain information from Extension workers. It is recommended that agricultural information via Extension agents and other sources should be made accessible and utilized to assist farmers towards improved crop production in the study area.

Keywords: Information sources, dissemination, cowpea production, innovative practices.

INTRODUCTION

The agricultural sector in Nigeria is confronted with major challenges of increased production to feed the rapidly growing population of the nation, provide income to rural farmers as well as industrial raw materials. These challenges offer an important opportunity for improving the livelihoods of rural communities via improved agricultural production but the task is made difficult by the continuous use of obsolete agricultural production technology, coupled with challenges from pest and diseases, climate change, decreasing natural resources like agricultural land, water and forestry, due to urbanization (Stienen et al., 2007). Realizing this opportunity and overcoming these challenges require the adaption and implementation of new, improved and innovative farming techniques that would enhance the productivity and livelihood of farmers, especially in rural areas where majority of farming activities take place (Richardson, 2005; Stienen et al., 2007). The key vehicle for disseminating agricultural innovations and technologies to farmers is via the agricultural information

system (Bello and Obinne, 2012; Rao, 2007; Vidanapathirana, 2012).

The role of agricultural information in enhancing food security and supporting rural livelihood is increasingly being recognized and was officially endorsed at World Summit on the Information Society WSIS (2005). This is because agriculture in the 21st century is one of the most diverse economic sectors; encompassing a far wide range of stakeholders (Figure 1), which include individual farmers, consumers, government agencies, research institutes, multinational corporations, farmers' organizations, traders, NGOs, and many others (Vidanapathirana, 2012; Richardson, 2005). Thus, for the sector to be productive there is the need for fruitful and unhindered transmission of valuable information to farmers for increased food production and for enhancing communication process among these diverse stakeholders; communication and information flows is critical in facilitating information dissemination.

In Nigeria, improving access to agricultural information

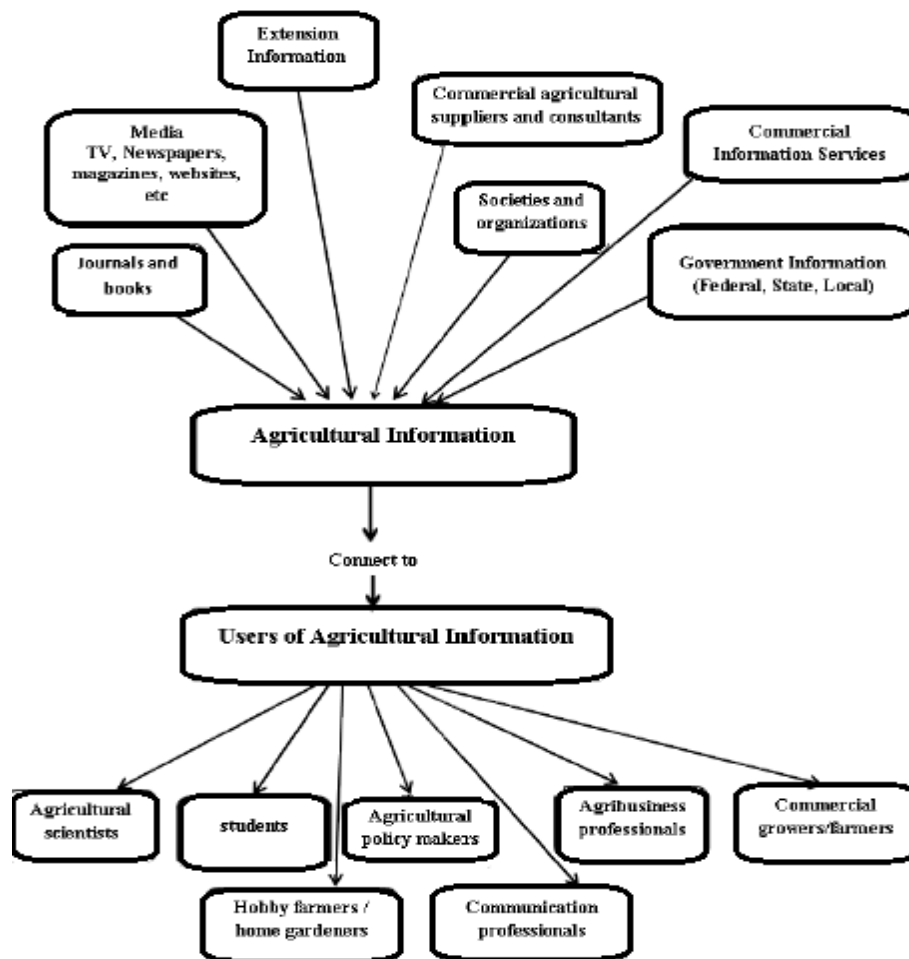


Figure 1. Conceptual framework for agricultural information sources and users (McCue et al., 2005 p.5 cited in Vidanapathirana, 2012).

is very important for rural communities not only because they cultivate the majority of the crops produced in the country, but also due to dearth of information and communication infrastructure and remoteness of these communities. The importance of transmitting agricultural information to farmers can also be seen in the efforts of the Federal Ministry of Agriculture and States Agricultural Development Projects (ADPs) to improve cowpea production in different regions of Nigeria. These agencies recommend adopting a package of innovative practices developed by International Institute of Tropical Agriculture (IITA), Ibadan and Institute for Agricultural Research, Zaria for boosting cowpea production. Conveying relevant agricultural information and technology to Nigerian cowpea farmers is important because, with an estimated annual production of 2.17 million tons, the country is the highest producer of cowpea in the world (FAO, 2000).

This study aims to identify sources of, and preferences towards agricultural information among cowpea farmers in Rimi Local Government Area of Katsina State. The specific objectives of the study were to:

1. Identify farmers' sources of and preferences towards agricultural information in the study area.
2. Recommend ways of improving information dissemination to and utilization by the farmers towards high cowpea production in the area.

METHODOLOGY

This exploratory study was conducted through questionnaire survey in Rimi Local Government Area of Katsina, Nigeria, in 2010. Two-stage sampling technique was employed. First, five most populous out of the ten wards that constitute the local government area were selected, namely Rimi, Abukur, Kadandani, Makurda, and Kurabau. Second, a total of 150 respondents were randomly selected disproportionately in the five communities (30 in each ward) and surveyed with the aid of questionnaire. The instrument asked demographic questions (age, educational levels, and family size), farm size, and questions related to their sources of and preferences towards agricultural information.

Table 1. Selected socio-economic characteristics of respondents.

Socio-economic characteristics	Frequency (n = 150)
Age (years)	
20 – 29	1 (0.7%)
30 – 39	51 (34.0%)
40 – 49	64 (42.6%)
50 – 59	31 (20.7%)
>60	3 (2.0%)
Family size	
1 – 5	16 (10.7%)
6 – 10	49 (32.7%)
11 – 15	50 (33.3%)
16 – 20	24 (16.0%)
>20	11 (7.3%)
Educational qualification	
No education	81 (54.0%)
Primary education	43 (28.7%)
Secondary education	17 (11.3%)
Post-secondary	9 (6.0%)

Source: Field survey (2010).

Other resource material used to complement the survey data were obtained from secondary sources on information sources on cowpea recommendations, as well as official documents from Katsina State Ministry of Agriculture, Katsina State Agricultural and Rural Development Authority (KTARDA) and from the internet. Questionnaire responses were collated and analyzed using frequency distribution tables, ranges and percentages with the aid of Microsoft Excel software.

RESULTS AND DISCUSSION

Socio-economic characteristics of respondents

Table 1 shows the distribution of respondents by their socio-economic characteristics. The age range of the respondents show that more than half (57.3%) are within the youthful age of 20 to 49 years; the age cohort that is considered to be keen and more receptive to innovative ideas as several studies have reported a negative relationship between older age and both utilization of agricultural information and adoption of improved technologies (Tadesse, 2008). More utilization of agricultural information by younger farmers has also been supported by a study in India where age is found to be negatively correlated ($r = -0.50$) with the frequency of ITC use (Meera et al., 2004).

With regards to the family size of the respondents, this study found that majority (33.3%) had 11 to 15 persons, followed by 6 to 10 persons (32.0%), and then 16 to 20

people (16.0%). Only 10.7% had small family size of 1 to 5 persons, indicating overwhelmingly large families of younger rural farmers. Though these population demographics indicate some welfare challenges to the state, they nonetheless provide an opportunity for utilizing the people to improve agricultural output.

With regard to education, there is a general consensus that educational attainment is directly and positively related with acceptance and utilization of agricultural information. Farmers' ability to read and analyze agricultural information is enhanced through education Tadesse (2008). In this study the results for educational attainment indicates that about half of the respondents (54.0%) have never had formal education and 40.0% were educated not beyond secondary school level. This finding is worrying given that educational level has influence on access to and the utilization of agricultural information (Tadesse, 2008). Another inference that could be drawn from having 82.7% of the respondents having no formal education or not educated beyond primary level is that any policy or intervention programs for disseminating agricultural information to this community must take cognizance of the farmer's low literacy level.

Major source of agricultural information for the respondents

Table 2 shows that the major source of agricultural information for the respondents was fellow farmers (40.0%).

Table 2. Sources of agricultural information.

Information sources	Frequency (n = 150)	Rank
Fellow farmers	60 (40.0%)	1
Radio	45 (30.0%)	2
Extension agents advices	15 (10.0 %)	3
Attendance at on-farm demonstration	11 (7.3%)	4
Community leaders	6 (4.0%)	5
Attendance at extension trainings/meetings	6 (4.0%)	5
Attendance at field days	3 (2.0%)	6
Contact with agrochemicals sale agents	3 (2.0%)	6
Television	1 (0.7%)	7

Source: Field survey (2010).

Not only that this source of information is ranked the highest, respondents also emphasized it as their most preferred means of communication than the other sources. This finding is consistence with those of Irfan et al. (2006), Onemolease (2013) and Amudavi et al. (2009) who reported that fellow farmers were among the major sources of information to respondents in their studies. For example, a survey of farmers in Lahore, Pakistan found fellow farmers as the most utilized (97.5%) source of agricultural information followed by agro-chemical agencies (91.7%) and then television (64.2%) came a distant third Irfan et al. (2006) and Oladeji et al. (2011) also reported 'other farmers' as a source of information utilized by 70.8% of surveyed root- and tuber-crops farmers in Atisbo Local Government Area of Oyo State. Robert (2007) also found that fellow farmers were among the highly rated sources of information to farmers who revealed that they rely on interpersonal communication for detailed, local, and farm-specific information. However, in a survey of farmers in Imo State, Opara (2008) reported that fellow farmers are ranked as the 3rd source of agricultural information (utilized by 44.8% of respondents) after extension agents and radio.

After fellow farmers, the second-ranked source of information according to the respondents is the radio, which was utilized by 45 farmers (30%). This is less than the 48.8% of farmers who reported accessing agricultural information via radio in a study in rural Ethiopia (Tadesse, 2008). But similar to this study, radio also came 2nd as the source of information to farmers, though facilitated by Imo State ADP that provided rural farmers with radio-without-battery sets through which agricultural information is broadcasted to them (Opara, 2008). In Katsina State and other parts of rural northern Nigeria, radio is popular companion to farmers, which provides entertainments, news, as well as for listening to agricultural programs.

The 3rd-ranked source of information in this study is the advices and education received from extension agents, which were reported by fifteen respondents (10.0%). Though this finding is somewhat consistent with that of Onu (1991) and Oladeji et al. (2011) who found that extension agents ranked second and third sources of

agricultural information to the farmers surveyed in Imo and Oyo State, the finding differs from another study of farmers in the Imo State where extension agents were ranked the first source (88.1%) of agricultural information and advice (Opara, 2008). Tadesse (2008) also reported that 27.5% of surveyed farmers admitted being provided with extension advices. The implication of the finding about extension services in this study is that Katsina State government needs to address the issue of availability of extension services in the study area given that only one out of ten of the subjects admitted getting farming information from the agents.

Other noteworthy sources of agricultural information to the surveyed farmers are through attending farm demonstration (utilized by just 7.3% of the cowpea farmers), thus making it the 4th ranked source of information in comparison with 31.5% of farmers surveyed by Opara (2008), thus ranking 4th source of agricultural information in his study. While community leaders and attendance at extension meetings/trainings are both sources of information to 4% of the respondents (thus ranked as 5th), attending field days and contact with agro-chemicals sale agents are found to be the sources of information to just 3% of the respondents. The low utilization of field days as source of information found in this study is not peculiar to this study area because in a similar study in Ethiopia, only 9.4% of farmers reported participating in field days from 2005 to 2006 (Tadesse, 2008).

Among the nine sources of agricultural information covered in this study, television came last being used by only 1% of the farmers; compared to radio, which came second. This is despite the advantage of visuals offered by television as a source of information over the radio. Though, similar to this study, Robert (2007) reported that surveyed farmers ranked television as their least preferred mass media communication channel, a study by Tadesse (2008) reported that 27.5% of surveyed farmers access agricultural information from television. The high costs of hosting TV programs in addition to low budgetary allocation to agricultural development agencies in developing countries are likely contributing to fewer

broadcasts of agricultural programs on TV.

Then what could be the reasons behind these research findings. Possible reasons could be advanced for these results pattern. First, under-utilization of information from extension sources could be attributed to low literacy level of the farmers, as the majority of the respondents (54.0%) had no formal education. This agreed with the report of Abubakar and Abdulaziz (2009), where they opined that the success of using ICTs for agricultural development in Nigeria may be affected by literacy level of the farmers.

Ani (2007) implied that a variety of media use pattern is discernable if maximum impact is to be made. This is because people learn and acquire information in different ways. This is particularly true of farmers who have varying learning styles and preferences for sourcing and receiving information. Based on the level of felt need, some will attend educational meeting, tours and field days, some will read material given to them, while others would prefer to watch programmes on television, videos or listen to radio programmes and still others would prefer face-to-face individual consultation.

CONCLUSION AND RECOMMENDATIONS

The provision of agricultural information to farmers at the appropriate time, in the right format and from the reliable sources is very vital for improving agricultural production in both developed and developing countries. The choice of sources of information and utilization of agricultural technology and its dissemination to farmers remains an important factor in determining the extent to which farmers adopt or reject new agricultural practices and technology. However, in spite of the numerous sources of information available to farmers the issue of low adoption of innovations has become an issue of concern to agricultural policy makers.

This study sets out to identify farmers' sources of agricultural information in Rimi Local Government Area of Katsina State. The study reveals that farmers' most available sources of information were fellow farmers and then radio, (both sources that farmers also considered as their most preferred methods of receiving information). Even though information from fellow farmers may be inaccurate, outdated or unreliable, it remains the most available information sources about cowpea production above other more effective channels like extension agents, ICTs, attending extension training/meetings and farm demonstration, television and print media. Even if the information from fellow farmers is accurate, it does not easily diffuse to majority of farmers as it is based on acquaintance and neighborliness and the information may be distorted when it leaves the source to receiver, hence could affect the originality and contents of the packages. In the case of radio information packages, farmers are denied the opportunities to observe and ask questions. As such, based on the findings, the following

recommendations are made.

The first and foremost recommendation is that Katsina State ADP and Ministry of Agriculture should ensure that officials involved in agricultural technology transfer at whatever level have been provided with the resources required to do their jobs of providing farmers with appropriate and timely agricultural information. Second, agricultural radio programs should be packaged in local languages and the capacity of extension workers should be built which would enable them become more confident in disseminating the information.

Third, the state ministry of agriculture in collaboration with that of education should organize adult education classes for farmers to assist them develop their reading and writing skills. This would enable them to explore other sources of information and be receptive with innovative technology that would in turn improve their productivity. This is very important given that, WHO (cited by Tadesse, 2008) found that four years of primary education raised farm output by 8% percent on average. Meera et al. (2004) also found a significant correlation between the frequency of ITC use and the farmers' years of education ($r = 0.375$). As such, improving the educational attainments of these communities should be given uttermost attention.

Fourth, given that ICT has recently unleashed incredible potential for improving agriculture in developing countries McNamara et al. (n. d.). Katsina State ADP should incorporate rural ICT in agricultural sector policies, projects and programs. This could be achieved by providing the ICT facilities and building the capacity of farmers and other users in rural areas on how to use the facilities. Planning for rural ICT could be done through partnerships with the private sector and NGOs and with the involvement of local communities. This is important given that in India, most of the successful agricultural ICT projects were started by NGOs, private organizations, and cooperative bodies rather than those owned by state agricultural departments (Meera et al., 2004).

Lastly, while planning and designing diffusion of innovation, extension planners and practitioners should put farmers' preferences, socio-economic status and technological attributes into cognizance, this would complement both technology diffusion and adoption. In conclusion, improving rural farmers' access to agricultural information has direct impact on enhancing the agricultural sector in developing countries as rural farmers are the engines of agricultural production.

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