Awareness and use of agricultural market information among small scale farmers in Ngaka Modiri Molema District of North West Province

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Abstract : The study determined awareness and use of agricultural market information among small scale farmers in the Ngaka Modiri Molema District in the North West Province. Simple random sampling techniques was used to select 120 farmers from the population of study and data were collected through the use of structured questionnaire and subjected to analysis using frequencies, percentage and multiple regression analysis. The results of the study show that majority of farmers were between the age category of 51-60 years, married (58.8%); Christians (80.7%), males (56.3%), married (58.8%) and had studied up to high school level (47.1%). The results also shows that agricultural market information provides farmers with knowledge of the prices of the produce, provides knowledge of who to buy the produce, the quantity to be produce and knowledge of different outlets such as fruit and vegetables, respectively with 67.2% and 66.4%. Farmers have indicated that they are aware of agricultural market information and they use radio with 68.9% and newspaper with 68.1% respectively. Significant determinant of use of agricultural market information were knowledge (t= 6.464) and awareness (t= 6.963).
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Introduction

Agriculture is considered critical to social, economic growth and poverty reduction and has been described as the backbone of the economies of most African countries and the main economic base for small-scale farmers in Africa. Empirical evidence from various country case studies conducted in Africa indicated that pro-growth and pro-poor performance of agriculture will continue to depend on the broad participation of smallholder farmers, and that food staple growth generates more to poverty reduction than other agricultural subsector (Diao et al. 2007:). About 2/3 of developing countries depend on agriculture for their livelihood and 75% of these farmers are small-scale farmers (Bunders and Broerse 1991). About 3/4 of Africa's population is found in rural areas and 60-90% of the total labour force is employed in the agricultural sector. According to the Economic Commission for Africa and the African Union, agriculture employs about 70 per cent of the work force and generates on average 30 per cent of Africa's GDP (ECA and African Union 2007). In sub-Saharan Africa, small-scale farmers constitute about 73% of the rural poor. Agriculture is linked to food security and will remain a primary source of growth and means of poverty reduction and backbone of rural economy in Africa (IFAD 2001). The agricultural sector could also be the main contributor to poverty reduction (ECA and African Union 2007). Diao et al. (2007) posited that linkages between agriculture to the rest of the economy can generate employment and intensive patterns of development. However, the ability of agriculture to reduce poverty and generate growth varies across and within countries. Africa has battled with food insecurity and agricultural production for a long time. It is noteworthy that although poverty levels have fallen globally, Sub-Saharan Africa is the only developing region where there has been a decline in per capita food-grain output and where the number of people living below poverty line has doubled over four decades. About 46% of the population lives on less than a dollar a day (UNDP 2005; ECA 2006). Less than 6% of Africa's arable and permanent crop land is irrigated (ECA 2005) and most of the land on agriculture is not arable.

World Bank (2006), states that Africa needs to make agriculture more productive and sustainable, connect poor people to markets, enhance human development, get services to poor populations (especially women) and use natural resource assets well if the MDGs are to be achieved. There are a number of initiatives at the continental, regional, sub-regional, national and local levels working towards increasing agricultural productivity in Africa. All these indicators make initiatives on ICTs and small-scale agriculture in Africa urgent if the set milestones are to be achieved. All agricultural business activities involved in the movement of commodities from production to consumption is marketing (Batcheller, 2005). This means that the farmers' market information needs are those that enable them

make rational and relevant decisions. Market information is vital to market participation behaviour of small-scale farmers. Availability of market information boosts confidence of households who are willing to market their produce. In other words, market information allows farmers to take informed decisions. Thus, farmers who are more informed are more likely to participate in marketing. Also of equal importance is the source of market information because it determines accuracy of the information (Cook, 2003).

Information is an essential ingredient in agricultural development programmes but small-scale farmers seldom feel the impact of agricultural innovations either because they have no access to such vital information or because it is poorly disseminated (Zhang, 2000). In agriculture, ICTs are being used for accessing agricultural information, financial information, market information, surveys and agri-business (May et al, 2007). Maru (2004) pointed out that the use of ICTs is ubiquitous in national agricultural research systems in Sub-Saharan Africa, while Grimshaw (2005) observed that there was consensus that ICTs play an important role in development by linking users to up-to-date information, skills and markets. In Uganda, ICTs are used to disseminate local agricultural information and knowledge to small-scale farmers (Akiiki, 2006) while in Senegal, women are using tele-centres (linked to the internet via mobile phones) to access market prices (May et al, 2007). The literature reveals that in many instances information provision in agricultural science is exclusively focused on policy makers, researchers, and those who manage policy decisions with scant attention paid to the information needs of the practising small-scale farmers who are supposed to beneficiaries of the policy decisions. A further neglect in the information provision is the concentration of information supply on production practices to the exclusion o the marketing information.

It is therefore clear that if the approaches to agricultural development programmes are to work, governmental and non-governmental organizations need to take new approaches to information dissemination and management that grow out from a clear understanding of what information needs of small-scale farmers. If provided with the right inputs, feasible technology and relevant information, small-scale farmers are capable of transforming traditional agriculture, which they normally adhere to if not provided with new information on the latest agricultural technology (Mabota et al, 2003). The main objective of the study is to identify and analyze the awareness and use of agricultural market information among small scale farmers in Ngaka Modiri Molema District of North West Province. The specific objectives of the study were to determine the socio-economic characteristics, investigate the sources of information and determine awareness and use of sources of information. The study also explored the significant relationship between socio-economic characteristics and use of market information among small scale farmers

Materials and Methods

The study was conducted in Ngaka Modiri Molema district in the Northwest Province. The main economic activity in the Ngaka Modiri Molema of the Northwest Province is Agriculture, mainly producing crops and cattle. Temperatures range from 17° to 31°C (62° to 88°F) in the summer and from 3° to 21°C (37° to 70°F) in the winter. Annual rainfall totals about 360 mm (about 14 in), with almost all of it falling during the summer months, between October and April. A descriptive research design was used to analyze awareness and use of agricultural market information by small scale farmers. The population of study is all small scale farmers in Ngaka Modiri Molema district. From the list of farmers obtained from North West Department of Agriculture, Conservation, Environment and Rural Development, simple random sampling technique was used to select 120 farmers representing five percent of the population. Data were collected through the use of structured questionnaire that consists of demographics, knowledge of agricultural market information and different channels of communication. Data collected were analyzed with statistical package for social science using frequencies, percentage and multiple regression analysis.

Results

Table 1 presents personal characteristics of small scale farmers covered in this study. Table 2 indicates the knowledge and use of farmers on agricultural market information, Table 3 Determinants of use of agricultural marketing information and Figure 1 compared the Awareness and use of information sources on agricultural market.

Discussion

In Table 1, the majority of farmers were between the age category of 51-60 years, married (58.8%); Christians (80.7%) and had studied up to high school level (47.1%). Mabe *et al.* (2010) who revealed that majority of the farmers in North-West Province had low educational level. Majority of the respondents were males (56.3%).

Table 1: Personal characteristics of small-scale farmers

Variables	Frequency	Percentage
Age		
<30	22	18.5
30-40	23	19.2
41-50	22	18.4
51-60	28	23.5
Above 60	15	12.6
Gender		
Male	67	56.3
Female	52	43.7
Marital status		
Single	40	33.6
Married	70	58.8
Divorced	8	6.7
Religion		
Christianity	96	80.7
Islam	4	3.4
Education		
Primary	27	22.7
High school	56	47.1
College	18	15.1
University	14	11.8
Sources of land		
Personal	90	75.5
Rented	20	16.8
Organizational Membership		
No	84	70.6
Yes	15	12.6
If yes name them	1	0.8
No	15	12.6
extension contact		
No	17	14.3
Yes	93	78.2
labour sources		
Self	63	52.9
Family	38	31.9
Hired	17	14.3
Farm income		
<10 000	59	39.1
10 000-20 000	24	20
Above 20 000	6	4.8
Farming experience		
<10 years	53	44.4
10-20 years	42	35.3
Above 20	24	20
Household size		
1-3	43	36.2
4-6	50	42
Above 6	9	7.5

The results suggest that farming is still dominated by males and 44.4% have less than 10 years of farming experience. Moloi (2008) who reported that despite the gains that have been made with respect to gender equality, the redistribution of resources and power has not shifted the structural forces. The gendered nature of the social, culture, economic and policy systems may have limited women farmers from participating in the study (Logwa et al., 2010). Table 1 further revealed that 58.8% of the farmers are married and having between 4-6 persons per households. Modise (2008) stated that large households may have an advantage to farm labor, and this might have a positive impact on the farm income. About 75% of the farmers are farming on personal land while 71% have organizational membership with farmers' groups and association within the study area. In terms of contact with extension services, about 78% of the farmer indicated contact with extension officers, while only 25% earn income more than R10,000. Schwalbach *et al.* (2001) revealed that majority of farmers earn low income per year from their farming activities.

Table 2 indicates the knowledge and use of farmers on agricultural market information, most farmers have knowledge of market information and it provides them with the quality that is demanded by the consumer. The results also shows that agricultural market information provides them with knowledge of the prices of the produce, provides knowledge of who to buy the produce, the quantity to be produce and knowledge of different outlets such as fruit and vegetables, respectively with 67.2% and 66.4%. Most farmers have proved that small scale farmers still have or know little access about the international markets as the results shows only 14.3% know on how to enter international markets. The results also show that small scale farmers are still not familiarized with the JSE SAFEX which helps the farmers with future prices and provide them with knowledge of what maize cultivar is mostly demanded by the international markets. This may be due to the environment in which these farmers dwell, on average most of these farmers are not exposed to internet and other sources of information also taking into consideration literacy level is another bottleneck. In terms of the use of agricultural market information, the prominent use of agricultural information are in terms of quality demanded (61.3%); time of production (57.1%); awareness of risks associated with production (60.5%) and knowledge of how to control farm gate buyers (57.1%).

Table 2. Knowledge and use of agricultural market information

	Knowledge		Usage	
Statements	Yes	No	Use	Non Use
Market information provide prices of produce	80(67.2)	39(32.8)	58(48.7)	61(51.3)
Market information provide buyers of produce	80(67.2)	39(32.8)	59(49.6)	60(50.4)
Market information provide location where the produce is demanded	82(68.9)	37(31.1)	62(52.1)	57(47.9)
Market information provide what quality is demanded	82(68.9)	37(31.1)	73(61.3)	46(38.7)
Market information provides knowledge of when to produce.	71(59.7)	48(40.3)	68(57.1)	51(42.8)
Market information provide knowledge of different outlets such as fruit and veg.	74(62.2)	45(37.9)	66(55.5)	53(44.6)
Market information provide what to produce	73(61.3)	46(38.7)	66(55.5)	53(44.5)
Market information provide and quantity to be produced	79(66.4)	40(33.6)	55(46.2)	64(53.8)
Market information provide knowledge of auctions	45(37.8)	73(61.4)	50(42.0)	69(58)
Market information provides knowledge of how to enter international markets.	17(14.3)	102(85.7)	42(35.3)	77(64.7)
Market information provide knowledge of JSE SAFEX	19(16.0)	100(84)	42(35.3)	77(64.7)
Market information provide knowledge of the seasonality of the produce	48(40.3)	71(59.6)	63(52.9)	56(47)
Market information provide awareness of risks	60(50.4)	59(49.6)	72(60.5)	47(39.5)
Market information provide knowledge of producing multiple different produce within different seasons.	56(47.1)	63(53)	63(52.9)	56(47.1)
Market information provide knowledge of middlemen activities	48(40.3)	71(59.7)	62(52.1)	57(47.9)
Market information provide knowledge of how to control farm gate buyers	53(44.5)	66(55.5)	68(57.1)	51(42.8)

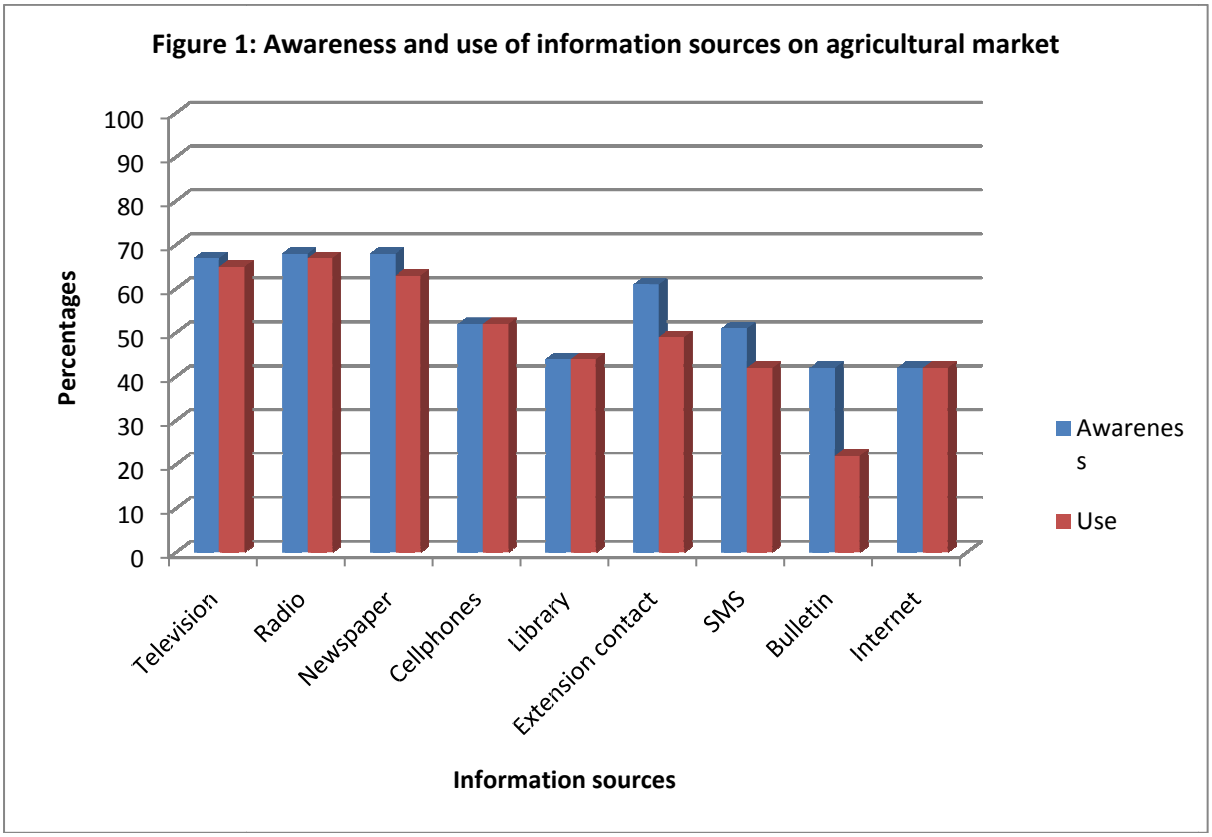

Table 3. Determinants of use of agricultural marketing information.

	B	Std Error	Beta	T	Sig
Constant	-3.025	3.822		-.791	.431
Age	.064	.043	.130	1.488	.140
Gender	-.773	.921	-.052	-.839	.403
Marital status	.435	.730	.037	.596	.553
Religion	-1.296	1.098	-.075	-1.180	.241
Education	.224	.471	.030	.476	.635
Source of land	.566	.931	.038	.608	.545
Organizational member	1.428	.909	.106	1.571	.119
Contact with extension workers	.680	.788	.056	.863	.390
Labor sources	-.588	.656	.059	-.897	.372
Farm income	9.841E-6	.000	.011	.156	.876
Year of farming	-.093	.061	-.124	-1.531	.129
Household size	.343	.231	.113	1.487	.140
Farm size	.001	.004	.020	.294	.769
Knowledge	.544	.084	.429	6.464	**.000**
Awareness	.671	.096	.483	6.963	**.000**
F	2.009				
Sig	.024[a]				
R	.461[a]				
R Square	.231				

In Figure 1, farmers indicated that they are aware of agricultural market information and they use radio with 68.9% and newspaper with 68.1% respectively. Radio and newspaper are more likely to have provided high awareness due to low cost, as well as being an appropriate tools that fulfills the farmers' needs and it is because these sources are easily accessible at anytime and everywhere especially radio offers preference of different languages for different audiences. Previously, Akullo et al., (2007) found that radio programmes were the major ICT channels used by farmers to acquire agricultural information knowledge in Uganda. Farmers also prove that they are not aware of internet as their reliable source of information, this shows that rural small scale farmers are still backward with technology. This could be because In rural communities use of computer is rare not everyone has the knowledge on how to use computers, this brings the issue of low literacy level and some might know how to use these machines but another constraint could be the accessibility to them since internet café are not popular amongst rural communities.

The findings from the study revealed that a large number of farmers (67.5%) use radio as the most appropriate technology to access agricultural market information. Radio is one of the most widespread and popular tools of communication in Africa. Chapman et al. (2003) argue that the strength of radio as an extension tool is widely praised for its ability to reach illiterate farmers and provide them with information related to all aspects of agricultural production in a language they understand. They further maintain that in an era of rapidly developing information and communication technologies, rural radio is a powerful mechanism for linking old and new technologies, providing information resources cheaply to those who need to improve their livelihoods, while at the same time strengthening existing resource of knowledge, enterprise and cultural identity. Furthermore, Okwu et al. (2007) also show that radio is one broadcast medium which almost all experts have found to be the most appropriate medium of mass communication in the rural population. He further maintains that radio is favored as a medium of communication in rural communities because of the advantage of demanding less intellectual effort than the print media messages and also because it is able to reach remote areas, even where there are no extension agents, as long as there is a good reception. Ozowa (2011) that majority of the farmers use radio as the most common information channel but agrees with him that the second most used channel is television. A study by Narula (2010) corroborates that information on commodity prices and agricultural markets is extremely important.

The results of multiple regression analysis of relationships between demographic characteristics and use of agricultural market information amongst small scale farmers in Table 3. The independent variables were significantly related to use of agricultural market information with an F value of

2.009. Also an R value of 0.461 showed that there was strong correlation between the independent variable and use of agricultural market information. Significant determinants were knowledge (t= 6.464), awareness (t= 6.963). These findings imply that as knowledge and awareness of agricultural market information among small scale farmers increases the use of such information also increase.

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