

## Accessibility and Utilization Of Agricultural Information Among Women Farmers: The Case of Korogwe District, Tanzania.

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### Abstract

This study was conducted in Korogwe district involving 100 women farmers randomly selected from four villages. Household data was collected using a structured questionnaire, and supplemented by interviews for key informants and Focus Group Discussions (FGD). The Statistical Package for Social Sciences (SPSS) software was used to analyse the data. The findings showed that education, age, extension services, and mass media determine the access and utilization of agricultural information. Furthermore, low production was due to lack of extension services, low education of the respondents, inability to access credit and unawareness of sources of information. Moreover, sources of agricultural information such as extension services, mass media, and farmers' own efforts have a direct linkage with the accessibility to agricultural information. The study recommends that efforts to increase farmers' access to agricultural information should be improved. There is a need of improving extension services so as to reach and benefit women farmers. Vugiri ward is located in the highlands that are vulnerable to soil erosion which contributed to poor crop production, hence efforts should be made to introduce soil management practices so as to arrest the situation and increase crop production.

**Key words:** Women farmers, agricultural information, accessibility, utilization

### 1. Introduction

Information is an important resource needed by every individual whether literate or not. While information providers make every effort to supply information on a regular basis to the literates, the non-literates are literally neglected by most information providers. The majority of the rural inhabitants in Africa who are non-literates are mostly farmers, who constitute the bulk of the labor force in most African countries (Dulle & Aina, 1999). Moreover, access to information is an essential production factor in agriculture, and has evolved into the fourth production factor next to labour, capital and natural resources (Ulrich, 2004). It is also noted that with other factors being equally important, improving

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information access can contribute to increased production from efficient utilization of available resources. Ochieng (1999) asserts that accessibility to information is a vital tool for empowerment of individuals to take informed decisions or actions for themselves, or for community development. However, information only becomes useful if it is relevant, timely, and appropriate; and thus, the choice of channel through which information is transmitted must be appropriate, perceivable, and affordable to the user.

Rogers (1995) used diffusion model to explain a process where innovation is communicated through a certain channels over time among members of a social system. Thus, from the diffusion and innovation model, as an innovation is introduced into any social system, it is first adopted by a small but highly innovative group of farmers known as progressive farmers. Furthermore, the innovation then trickles down from progressive farmers to medium socio-economic farmers, and finally it spreads throughout the social system (Van den Ban & Hawkins, 1996). Therefore, various channels of communication become important at different stages of the adoption process. Van den Ban and Hawkins (*ibid*) noted that information is communicated to farmers through varieties of channels such as mass media like radio and farm magazines, and extension techniques such as farm demonstrations, extension meetings and visits. Other channels include personal contacts with neighbours, friends, and relatives. Kachemela (1997) noted that the most potential sources of agricultural information for the farming households in Tanzania are through extension workers (68.0%), radio (60.0%) and other sources (29.1%).

Small-scale farmers have achieved a certain level of efficiency through deployment of their indigenous knowledge despite the fact that their accessibility to agricultural information is often limited by unfavourable economic, socio-cultural, and institutional conditions (such as poor education, income, availability of extension officers, etc.). In addition, although farmers in Tanzania have access to a number of information channels, many barriers -- such as insufficient production and distribution of mass media, content of information and low level of education -- inhibit information flow which could have greatly helped agricultural development. Moreover, the extension system has failed to solve some of these problems, partly because farmers do not have ready access to relevant information. Aina (1990) cited an inadequate number of agricultural extension staff and the slow rate at which information on improved practices reaches smallholder farmers from researches as one of the problems inherent in agricultural extension services.

Agriculture remains the dominant sector in Tanzania's economy. Thus its performance has a significant effect on output and corresponding income and poverty levels. It is estimated that about 70% of the population in Tanzania live in rural areas, and about 80% of this population live on less than US\$0.65 a day (Tumsifu, 2005). In Tanzania, the role that can be played by information in the



process of agricultural development is greatly constrained. Moreover, access to mass media is limited. The social and economic infrastructures are underdeveloped, and thus interpersonal communication is the dominant means of communication (Manda, 2002). Besides, it has been pointed out that ineffectiveness of extension services in Tanzania is a result of inadequate number of extension agents to cover wide geographical areas, and lack of motivation to extension workers.

Women are the main producers and providers of food, and are also estimated to perform about 70-80% of all subsistence farming in Africa. Thus farming is a woman's principle duty (Mdoe & Macha, 2002). However, women receive only between 2 and 10% of all extension contacts, and 5% of extension resources worldwide (FAO, 1995). Notwithstanding the fact that women dominate agricultural activities in developing countries, they are often not the targets of extension information. Apparently, the target is often heads of households, who are mostly men. Okunade (2006) noted the same trend in Nigeria that excludes women from extension services on agricultural production, and this in turn results in low productivity. Furthermore, women face a number of constraints that have made it difficult for them to get access to extension services. More often than not, they are expected to produce the family food, and have many duties to fulfil. This takes up much of their time. For example, they have to bear and rear children while performing household's chores such as cleaning, washing, and so on. This explains the low attendance of women at extension meetings, resulting into their inability to make important decisions at the meetings. Men, on the other hand, have sufficient time to attend such meetings and perform well.

Development planners have assumed that information given to male farmers will be passed along to female farmers. However, this is a theoretical assumption. Contrary to this assumption, Durutan (1999) found out that agricultural knowledge acquired by male farmers often does not trickle across effectively to women in the family. Thus, women are not seen as having any potential to contribute to the economy of the country other than to play a supportive role to their husbands/families.

Furthermore, access to timely and appropriate information is the missing link in women's effective contribution to the agricultural sector. Inadequate consultation with rural women on various issues regarding their priorities in agricultural activities has also limited the opportunities of availing women with gender specific information relevant to their needs. Despite women being neglected by extension services, analysis of their contributions to agricultural development indicates that there is a justification for involving them in programmes because they account for 70% of agricultural workers, and produce 80% of food crops (Ochieng, 1999). Regardless of their important contribution in agricultural production and national economy in general, women have remained least informed, and their role is still neglected.

It is from the above background that we saw the need to investigate how women farmers in Korogwe district access and make use of agricultural information and how such information can assist them to increase agricultural production and ultimately household income, and in particular food security. This study investigated the accessibility and utilisation of agricultural information for production among women farmers in Korogwe district. It presents the needs and identifies channels of communication used to deliver agricultural information to women farmers.

## **2. Materials and Methods**

This study was conducted in Korogwe district in Tanga region. The district has an area of 3,756km<sup>2</sup>. The National Population and Housing Census of 2002 indicated that Korogwe district had a total population of 260,238; with 127,653 males and 132,585 females. In 2004 the district had a population growth rate of 1.2%. The district is divided into low wetland, mountainous and semi-arid zones. The climate of the district is closely associated with the topography which ranges from tropical to sub-tropical humid regions, with a mean annual rainfall of 500mm in the lower areas and 2000mm in the mountains. There are two rain seasons: the long rains which occur in February to May, and the short rains in September to November.

Agriculture is the main economic activity in the district. Livestock keeping and crop cultivation are the major economic activities, accounting for the livelihoods of 90% of the population. The common food crops are maize, beans, paddy, and cardamom. Average plot sizes range from 1 hectare to 2 hectares.

This study employed a cross-sectional design for data collection. Stratified sampling was used in selecting two wards out of the twenty wards in Korogwe district. The first ward was selected from a mountainous rural area, and the second from a sub-urban area of Korogwe town. The two wards were selected using the following criterion, distance from Korogwe town and thus assumed that there will be shortage of extension services. The second ward was picked from an area that is in close proximity to Korogwe town, and hence expected to have more extension services. Two villages were selected purposively from each ward making a total of four study villages.

Twenty five women farmers were randomly selected from each village to make a total sample size of 100 respondents who were interviewed by using a structured questionnaire. Checklists were used to interview four village leaders/key informants, one in each village. Focus Group Discussions (FGDs), were made up of women participants with income from agricultural activities in each village. Eight respondents in each village were selected randomly to participate in the FGDs. Secondary data were collected from various sources like libraries, internet, NGOs documentation, district and village reports, as well as other relevant reports.



The study employed the SPSS software to develop a summary of quantitative information (e.g., frequencies, means, and percentages) to determine distribution of individual variances among the respondents. Cross tabulation was used to show the linkages between variables, while Likert scale was employed to measure the community awareness on the items indicated.

### 3. Results and Discussion

#### 3.1 Characteristics of the Respondents

Seventy eight (78) percent of the respondents fell in the age group of between 21~60 years. The other groups were that of below 20 years (5 respondents), and the above 60 years old (8 respondents). In addition, out of the 100 respondents, 68 were married, 15 were widows, 9 were single, and 8 were divorced. Thus the majority of respondents lived with their husbands.

With regards to education of the respondents, Table 1 indicates that 78% of the respondents had attained primary education, whereas 15% of the respondents had no formal education. In addition, 5% of the respondents had attained college education (i.e., teaching and health assistant certificate) and only 2% had secondary education. Thus, the results show that the majority of the respondents had completed primary school education.

Table 1: Education Level of the Respondents (N=100)

Education	Frequency	Percentage
None	15	15.0
Primary	78	78.0
Secondary	2	2.0
College	5	5.0
Total	100	100.0

Source: Survey data

Education enables farmers to read and understand what is written in the mass media, and utilize such information for their own benefits. Moreover, education is perceived as one of the factors, among others, that influence individual's perception of an innovation before making adoption decisions. Therefore, low level of education acts as a barrier to agricultural information flow and utilization (Mbwana, 1994). This explains that respondents without education have less chance of accessing agricultural information except for radio programmes and extension visits. With few extension services, their chances of accessing agricultural information are very limited.

#### 3.2 Occupation of the Respondents

Table 2 shows that all respondents were crop producers. Informal interviews with the respondents indicated that they mainly produce maize and beans; very few produce banana, tea and as well as sugarcane. Besides, 31% kept livestock, mainly

indigenous cattle, goats, pigs and chicken. Pig farming is not very popular in the study area due to the Islamic religion. In addition, 28% were engaged in income generating activities like selling snacks, brick making, tailoring, local brewing, retail shop, selling firewood and traditional medicines. Seven percent of the respondents were employed as teachers or health assistants.

**Table 2: Occupation of the Respondents (N=100)**

Occupation	Frequency	Percentage
Crop producer	100	100.0
Livestock keeper	31	31.0
Business	28	28.0
Employed	7	7.0

**Note:** Respondents had more than one occupation

The results show that apart from engaging in other activities, all respondents were engaged in agricultural related activities.

### **3.3 Household Assets**

Table 3 indicates the household assets of the respondents, in which the majority of the respondents (85%) own land. Since all respondents were farmers, access to land was an important determinant factor of women's capability to improve their wellbeing. Respondents interviewed in the study area had access and control over land which was obtained through inheritance, renting, and purchase. Likewise, 83% of the respondents own houses, while 60% of the respondents own a radio.

**Table 3: Ownership of Assets (N=100)**

Assets	Frequency	Percentage
Land	85	85.0
House	83	83.0
Radio	60	60.0
Bicycle	19	19.0
Sewing machine	4	4.0
Motor cycle	1	1.0

**Note:** Respondents mentioned more than one asset

As stated earlier, the radio is still the most appropriate communication technology available to most people in Tanzania, particularly in rural communities (TCRA, 2005). Therefore, possession of a radio set is a very important source of agricultural information. This is in line with the study done in the Eastern Zone (Dar es Salaam, Coast, Morogoro and Tanga) which concluded that possession of a radio set mentioned by 70% of the study respondents was an efficient tool of information dissemination (Simbeye & Nyangi, 2005). Moreover, 19% and 1% of the respondents own transport facilities such as a bicycle or motorcycle, respectively. In addition, 4% own a sewing machine.



### 3.4 Household Production

#### 3.4.1 Sources of Income

Table 4 shows sources of income of the respondents. Agriculture is the main source of income indicated by 94%. More women in the study area were engaged in production of crops like maize and beans; while banana, tea and sugarcane accounted for low proportion.

**Table 4: Respondents' Sources of Income (N=100)**

Source of income	Frequency	Percentage
Agriculture	94	94.0
Petty Business	8	8.0
Livestock	6	6.0
Employment	5	5.0

Note: Respondents indicated more than one source of income.

As mentioned earlier, agriculture is the main economic activity, and 90% of the population in Korogwe district depends on crop farming and livestock husbandry for their daily subsistence. Petty business is another source of income for 8% of the respondents. Some respondents were engaged in non-farm income generating activities like selling snacks, brick making, tailoring, local brewing, retail shop, selling firewood and traditional medicines. Likewise, 6% of the respondents mentioned livestock keeping as a source of income, and only 5% of respondents earn their income through employment as teachers in primary schools and health assistants.

#### 3.4.2 Maize Production

Table 5 presents trends of maize production in the study area showing the minimum, maximum and average (mean) production of maize. Maize production was selected because it is one of the food crops grown mainly in the study area.

**Table 5: Acreage, maize production and consumption (N=93)**

Production	Frequency	Minimum	Maximum
No of acres	93	1	4
Kilograms produced	93	40	1600
Kilograms consumed	81	40	1500
Kilograms sold	24	80	1500
Gross Income obtained (Tsh)	24	10,000	245,000

Note: Percentages do not add to 100 because not all respondents produced, consumed, and sold maize.

Table 5 shows that 93% of the respondents produce maize. The minimum acreage was 1, and the maximum was 4; while the average number of acres

cultivated was 1.5. This implies that respondents could not go beyond four acres due to lack of capital to expand maize farms. Furthermore, 40kg was the minimum production, while 1600kg was the maximum production. The average production was 483.98kg, which is equal to 4 to 5 bags of maize. On the other hand, the majority of the respondents produced between 100 to 500kg of maize, showing that maize is the most important cereal crop grown in Korogwe district. However, the yields are often low due to the use of local seeds whose yield potential is low compared to that of improved varieties. Other reasons are untimely planting, low rainfall, limited use of fertilizers and poor storage facilities. Similarly, the majority of farmers use hand hoe for plot cultivation, consequently they cannot expand the agricultural crop acreage.

In addition, 81% consumed maize, while only 24% sold their maize. From the above observation, maize production is considered as a food crop, and the surplus is sold. The minimum income (gross) obtained after selling maize was Tsh 10,000, while the maximum was Tsh 245,000. On the other hand, the majority of the respondents obtained income of between Tsh 20,000 to Tsh 72,000 from the sale of maize. The average income obtained was Tsh 51,745.83. Overall, maize production is very low, sufficient to meet the daily household consumption only.

### 3.4.3 Beans Production

Table 6 presents the trends of beans production in the study area. It shows the minimum, maximum and average (mean) production of beans. Table 6 indicates that 76% of the respondents produce beans. The minimum was 1 and maximum was 5 acres, respectively. The average number of acres cultivated was 1.32. The minimum production was 20kg while 800kg was the maximum production. Average production for beans was 227.89kg which is equivalent to 2 bags.

**Table 6: Acreage and Beans Production and Consumption (N=76)**

Production	Frequency	Minimum	Maximum	Mean	Std. Deviation
No of acres	76	1	5	1.32	.869
Kilograms produced	76	20	800	227.89	186.964
Kilograms consumed	53	20	400	107.55	90.083
Kilograms sold	67	20	600	149.40	131.574
Gross Income obtained (Tsh)	67	10,000	360,000	76,567.16	71,992.471

**Note:** Percentages do not add to 100 because not all respondents produced, consumed, and sold beans.

This is contrary to the district beans production estimates of about 25 bags per acre. Moreover, the majority of the respondents cultivated between a quarter to one acre; the rest cultivating between 1.5 to 3 acres. Only one respondent cultivated 5 acres. Similarly, the majority of the respondents produced between 100 to 200kg of beans. This explains that beans production is mainly grown for



subsistence, even though it is the district cash crop. The subsistence nature of production and poor soil fertility are some of the reasons explaining the low production. During the research in the highlands it was observed that the majority of the farmers cultivated without conserving the soil (i.e., use of ridges and contours). This is a very big problem because the Usambara Mountains rise to the altitude of about 1219m above sea level, therefore cultivation of beans and most of the agricultural crops must be done on ridges in order to prevent soil erosion and increase production. It was also noted that farmers do not know how to make and use ridges, contours and how to apply fertilizers.

Besides, 53% consumed and 67% sold the beans produced, respectively. As noted earlier, 76% of respondents produced beans, and 67% sold their produce. This implies that beans production is considered as a cash crop even though production is low. The minimum income (gross) obtained was Tsh 10,000 and maximum was Tsh 360,000. Further analysis indicated that the majority of the respondents obtained the income (gross) of between Tsh 20,000 to Tsh 120,000, while very few respondents obtained between Tsh 205,000 to Tsh 360,000 income. The average income was Tsh 76,567.16. In short, beans production is considered as a cash crop even though production is very low. Therefore, efforts need to be made to assist women farmers in the study area to improve the production in order to increase their income.

### 3.5 Marketing Sources and Problems

Table 7 shows that 40% of respondents in Vugiri ward sold their produce within the village, and only 9% outside the village. Nineteen (19) percent of respondents claimed to have sold their produce at low price to middlemen in the village.

Table 7: Sources of Market and Problems encountered (N =82)

Name of ward	Market place	Price fluctuation	Problems experienced				Total
			Transp.	Low price	No specific market	Difficult negotiations	
Vugiri	In the village	4	9	19	1	7	40
	Outside the village	3	2	1	0	3	9
	<b>Total</b>	<b>7</b>	<b>11</b>	<b>20</b>	<b>1</b>	<b>10</b>	<b>49</b>
Magunga	In the village	0	7	12	0	3	22
	Outside the village	0	3	8	0	0	11
	<b>Total</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>0</b>	<b>3</b>	<b>33</b>

Note: The percentages do not add to 100 because; in Vugiri ward 49 and Magunga ward 33% respondents sold their produce respectively.

Those who sold their produce outside the village (1%) obtained low price. In Magunga ward, 22% of respondents sold their produce in the village, and 11% outside the village. Similarly, for those who sold their produce in Magunga

village, 12% also obtained low price, while those who sold outside the village (8%) sold at the same price. This explains that respondents who sold their produce within the villages were exploited by middlemen. On the other hand, transportation is a problem, especially in the highlands where the roads are rough and not accessible during the rain seasons, affecting both those who sold within and outside the village.

### **3.6 Accessibility and Utilization of Agricultural Information: Women Needs on Agricultural Information**

To determine the respondent's need of agricultural information, respondents were asked if they were satisfied with the agricultural information received. The results in Table 8 show that 71% of the respondents reported that they were not satisfied with the information received. However, 29% of the respondents were satisfied with the information. It was also noted that women farmers need information regarding sources of loans, location and types of existing credit sources, extension visits and agricultural innovation.

**Table 8: Adequacy of information (N=100)**

<b>Response</b>	<b>Frequency</b>	<b>Percent</b>
Satisfied	29	29.0
Not satisfied	71	71.0
<b>Total</b>	<b>100</b>	<b>100.0</b>

#### **3.6.1 Types of Communication Channels Used to Deliver Agricultural Information**

Sources of agricultural information by wards are presented in Table 9.

**Table 9: Sources of Agricultural Information (N=100)**

<b>Source of information</b>	<b>Vugiri ward (N=50)</b>		<b>Magunga (N=50)</b>	
	<b>n</b>	<b>percent</b>	<b>n</b>	<b>percent</b>
Extension visits	0	0	2	3.3
Radios	10	18.5	10	16.4
Farm magazines	1	1.9	1	1.6
Extension meetings	1	1.9	1	1.6
My own efforts	42	77.8	47	77.0
<b>Total</b>	<b>54</b>	<b>100</b>	<b>61</b>	<b>100</b>

**Note:** Respondents were allowed to mention more than one source of information.

In Vugiri ward, 77.8% of respondents use their own effort for agricultural production. Respondents reported to have learned from other members like relatives, friends, as well as their own experience since childhood. The findings tally with FAO (2002), which noted that women's access to agricultural information is directly related to their direct communication with members of different communities with which they interact. The study also showed that women's access to agricultural information does not necessarily depend on



their ownership of radios or on their being directly targeted by public extension workers, although in the case of the radio, 18.5% mentioned it as a source of agricultural information. Extension visits were not mentioned as a source of agricultural information, while only 1.9% mentioned extension meetings and farm magazines as sources of agricultural information.

Furthermore, in Magunga ward, 77% of respondents reported using their own efforts to access agricultural information; in which 16.4% used the radio as a source of agricultural information, and 3.3% mentioned extension visits as source of information. In addition, 1.6% mentioned extension meetings and farm magazines as a source of agricultural information. Uses of *Ukulima wa Kisasa* magazine as a source of information in the study area was similar to the results reported in a study conducted in Eastern Zone (Dar es Salaam, Coast, Morogoro and Tanga) which showed that *Ukulima wa Kisasa* awareness was 34%, and receivership/readership was only 18%. It is expected that farmers near Korogwe town would be more accessible to extension services and listen more to radio programs. Surprisingly, the study found out that except for extension visits, reported sources of agricultural information were similar to those reported in Vugiri and Magunga wards.

Table 10 shows respondents' opinions on the reliability of the channel of information. 34% of the respondents mentioned the radio as more reliable channel of information, while extension visits was reported by 31%. Moreover, extension meetings scored 26%; neighbours and friends 14%, and field demonstrations scored 11%.

**Table 10: Reliable Information channels (N=100).**

<u>Channel</u>	<u>Frequency</u>	<u>Percentage</u>
Radios	34	34.0
Extension visits	31	31.0
Extension meetings	26	26.0
Neighbor & friends	14	14.0
Field demonstrations	11	11.0

**Note:** Respondents picked more than one channel which they thought to be reliable

The results, therefore, indicate that the radio is mostly preferred by most of the respondents; probably because almost all respondents own radios. Although extension visits was mentioned as the second preferred channel, respondents preferred listening to radio programs probably because there are no extension officers in the area. Agricultural information becomes only useful if it is applicable, timely and appropriate; hence the choice of channel through which information is transmitted must be appropriate, perceivable and inexpensive to the user (Ochieng, 1999). Table 11 presents frequency of listening to the radio, and hours spent on domestic work.

Table 11: Frequency of Radio programs and Hours Spent for Domestic Work (N=100)

Hours spent	Frequency of listening to radio			Total
	Regularly	Occasionally	Not at all	
1-2	15	10	4	29
3-4	16	19	6	41
5-6	10	9	4	23
7-8	3	2	1	6
11-12	1	0	0	1
Total	45	40	15	100

$\chi^2 = 2.719$  Df = 8; Significance = 0.951

From Table 11, 41% spent 3-4 hours in domestic work, 29% spent 1-2 hours in domestic work. In addition, 23% spent 5-6 hours, 6% spent 7-8 hours, and only 1% spent 11-12 hours in domestic work. Similarly, 45% of the respondents listen to the radio regularly, 40% listening occasionally, and 15% do not listen to the radio at all. The relationship between the hours spent in domestic work and frequency of listening to the radio was tested by chi-square statistics. Table 11 shows that there was a significant relationship between frequency of radio programs and hours spent in domestic work. Informal discussion with respondents revealed that they spent much of their time in farming activities and some of them do not own a radio. Similarly, respondents who spent 5-6 hours in domestic work were left with time to listen to the radio, and those who spent less time from 1-4 hours had more time spent on listening to the radio.

Table 12 shows radio programs preferred by respondents. To show how much time was spent listening to agricultural programs, respondents were asked to mention radio programmes they preferred.

Table 12: Radio Programs Preferred by the Respondents (N=85)

Radio programs	Frequency	Percentage
News	52	52.0
Greetings	11	11.0
"Sports"	8	8.0
"Mkulima wa kisasa"	8	8.0
"Chemsha bongo"	4	4.0
Gospel	2	2.0
<b>Total</b>	<b>85</b>	<b>85.0</b>

The results shows that 52% of the respondents listen to news program, 11% to greeting programs, 8% opt for *Mkulima wa Kisasa* and "Sports", 4% for "Chemsha Bongo", and 2% for gospel programs. The results tally with results from a study conducted in the Eastern Zone which showed that "Ukulima wa Kisasa" listenership was only 8% (Simbeye & Nyangi, 2005). The results also show that the majority of the respondents do not listen to "Ukulima wa Kisasa" program, which means farmers do not get agricultural programme information because it impart



awareness and knowledge to farmers not only on agricultural production, but also on all agriculture and livelihood-related matters.

*3.6.2 Availability of Agricultural Information*

Table 13 indicates the availability of extension officers by wards. In Vugiri ward, 80% of the respondents mentioned lack of extension officers, while 20% indicated the presence of extension officers. In Magunga ward, 88% indicated the absence of extension officers, while 12% pointed out the presence of extension officers.

**Table 13: Availability of Extension Officers by Wards (N =100)**

Response	Vugiri Ward		Magunga Ward	
	Frequency	Percentage	Frequency	Percentage
Yes	10	20.0	6	12.0
No	40	80.0	44	88.0
Total	50	100	50	100

It was also observed that respondents who mentioned the presence of extension officers meant officers from NGOs like World Vision. Results further show that absence of extension services is a big problem in the study area. The presence of extension services would have facilitated the availability of agricultural information, and thus increased production. Literature states that extension is a type of education which is functional rather than theoretical. Therefore, it is better provided by extension workers whose main task is to convey information in a meaningful form to farmers (Ozowa, 1997). In Tanzania, it has been noted that extension services is the most effective source of information flow to farmers for adoption of farming practices, innovation and technology (Mbwana, 1994).

It was expected that villages near Korogwe town would have extension officers. On the contrary, the findings revealed the absence of extension services. This explains the poor adoption of agricultural innovation and low production. Lack of extension services is evident as shown further in Tables 14 and 15, which illustrate minimal extension contacts and meetings with the respondents respectively.

**Table 14: Frequency of Extension Contacts (N=100)**

Number of contacts	Frequency	Percentage
No extension officers	84	84.0
Never	12	12.0
Once per month	2	2.0
Twice per month	2	2.0
Total	100	100.0

The study also sought to determine the extent to which information on agricultural information was available to farmers through extension services.

Frequency of extension contacts was used to determine the availability of agricultural information. Although 16% of the respondents indicated presence of extension officers, only 4% had contacts with them. In addition, despite the presence of extension officers, 12% mentioned the absence of extension contacts. This, therefore, implies that the presence of extension officers does not guarantee availability of extension contacts.

Furthermore, results show that there is a shortage of extension services in the study area, and hence absence of agricultural information. Surprisingly, even respondents who indicated the presence of extension officers reported that extension contacts were not enough. Besides, those who indicated the presence of extension officers, also reported that they had not met any extension officer. During household interviews respondents were asked their opinions on the adequacy of extension contacts. Results revealed that 96 respondents had not had any contacts with extension officers at all.

Table 15 presents frequency of meetings conducted by extension officers in the study area. 88% of the respondents indicated the absence of extension meetings, while only 12% agreed that extension meetings were conducted.

**Table 15: Meetings Conducted by Extension Officers (N=100)**

Meetings conducted	Frequency	Percentage
None	88	88.0
Some of the times	12	12.0
<b>Total</b>	<b>100</b>	<b>100.0</b>

Informal discussions with the respondents revealed that meetings were conducted by World Vision and not by government extension officers. Therefore, results from Tables 13-15 indicate the absence of both extension officers, as well as services in the study area. Farmers have been left to practice traditional methods that are not sustainable and detrimental to their farms, which are located along steep slopes. Probably, low productivity experienced by respondents could be attributed to the absence of extension services.

Respondents were asked if they have any restrictions from attending meetings and sharing ideas. Sixty eight respondents said that they are not restricted by their spouses from attending meetings or sharing ideas. This means that husbands do not restrict their wives to attend meetings and share ideas. Thus, if extension services had been available, there is a possibility that production and household income would have increased as well as improvement in the livelihood of the people. Furthermore, respondents were asked if they were restricted from owning land. Results revealed that 97 respondents were not restricted from owning land, implying that women were not restricted from owning land and thus those with adequate agricultural information would have used the available land to increase production, income and consequently reduce poverty.



Likert-scale interview items were used to show constraints in receiving agricultural information and to assess farmers' attitude towards constraints experienced in receiving agricultural information (Table 16).

**Table 16: Constraints in receiving agricultural information**

Items measured	Strongly agree		Agree		Undecided		Disagree		Strongly disagree	
	<i>n</i>	<i>percent</i>	<i>n</i>	<i>percent</i>	<i>N</i>	<i>percent</i>	<i>n</i>	<i>percent</i>	<i>n</i>	<i>percent</i>
Cultural restrictions towards male officers	0	0	0	0	1	1.0	60	60.0	39	39.0
Domestic chores limits attending meeting	0	0	5	5.0	5	5.0	63	63.0	27	27.0
Extension's biasness towards male farmers	1	1.0	1	1.0	50	50.0	41	41.0	7	7.0
Do not understand information delivered	3	3.0	6	6.0	40	40.0	45	45.0	6	6.0

From the interview items, respondents were expected to indicate positive or negative attitude towards constraints faced in receiving agricultural information. If respondents agree with the constraints in receiving information, this implies that they face constraints in receiving information. If farmers disagree it means that there are no constraints in receiving agricultural information.

Table 16 shows that 99% disagree that cultural practices favour male officers, while only 1% could not decide. This explains that there are no cultural practices that restrict women farmers in establishing contacts with male officers. Moreover, 90% of the respondents disagreed that domestic chores limit them from attending meetings, while 5% agree and 5% could not decide if domestic chores limited women from attending meetings. In regard to extension contacts, 50% could not decide if there is attendance in extension meetings. On extension biasness, 48% disagree, while only 2% agreed that there is biasness towards male farmers. 51% of the respondents disagreed with the statement that they do not understand the information delivered to them (through neighbours and friends, radio). In addition, 40% could not decide, while 9% agree that they do not understand the information delivered. Informal discussions with the respondents revealed that information in the study area is delivered mainly through their own efforts, and sometimes through listening to radios. Like in other areas of Tanzania, receiving agricultural information through extension services was almost insignificant. This explains why constraints like cultural practices, extension biasness, or domestic chores limit attending meetings. Some of the respondents could not decide if they agree or not because extension meetings were not conducted. The results show disagreement with the items measured, meaning that there are no constraints in receiving agricultural information even though there are limited extension services in the study area.

### 3.6.3 Utilization of Agricultural Information and to Initiate IGAs

Table 17 shows the involvement of respondents in income generating activities (IGAs). According to the results, the majority of the respondents (70%) did not have any other income generating activities, implying that they solely depend on agriculture. Thirty percent of the respondents had income generating activities. Respondents mentioned that they engaged in non-farm income generating activities like local brewing, retail shops, brick-making, selling snacks, and selling firewood.

**Table 17: Involvement in off-Farm Activities (N=100)**

Response	Frequency	Percent
Yes	30	30.0
No	70	70.0
<b>Total</b>	<b>100</b>	<b>100.0</b>

Reliable and accurate information accessed and utilized by rural women can lead to increased food production and income for households, prevent diseases, and increase participation by rural women in the formulation and implementation of local initiatives (Ochieng, 1999). Respondents were asked their opinion on how agricultural information is utilized to initiate income generating activities.

Results of this issue shows that 76 respondents utilized information through land preparation, applying manure in their farms, planting by spacing, timely planting, using terraces, and vegetable production. This shows that information delivered to women through their own efforts has been utilized. Furthermore, 34 respondents did not utilize the information received. Table 18 presents benefits and obstacles experienced by respondents in the utilization of agricultural information.

**Table 18: Benefits and Obstacles of Utilizing Agricultural Information (N=100)**

Response	Reasons	Frequency	Percentage
Benefits	Increase in yields	54	54.0
	Improve my living	3	3.0
Obstacles	No capital	18	18.0
	Land is not fertile	4	4.0
	Lack of agricultural knowledge	21	21.0
<b>Total</b>		<b>100</b>	<b>100.0</b>

Results in Table 18 shows that 57% of the respondents benefited from utilization of agricultural information through increasing yields that improved their living standards. On the other hand, 43% did not benefit because of limited capital, infertile land and lack of agricultural knowledge, although respondents still use indigenous knowledge, which limits them from expanding farm lands.



## Conclusions

Women farmers in the study area have diverse needs of agricultural information, the major ones being information on improved agricultural practices, procedures for loan acquisition and extension services. Women obtain agricultural information through their own efforts such as direct communication with community members like relatives, neighbours and friends. The study found out that lack of extension services has contributed to unavailability of agricultural information to women farmers. The majority of women who are farmers do not have off-farm income generating activities, and thus solely depend on agricultural activities for their livelihoods. Limited access to agricultural information has denied women adequate information that would have assisted them to initiate off-farm activities and increase their production levels and income.

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