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# Accessibility of Improved Chicken Farming Business Information to Women Improved Chicken Farmers through Mobile Phones in Misungwi District, Tanzania

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**ABSTRACT**

**This study aimed to assess the accessibility of improved chicken farming business information to women through mobile phones in Misungwi District, Tanzania. A cross-sectional research design was adopted. A questionnaire was used to collect quantitative data while Focus Group Discussions and Key Informant Interviews were employed to obtain qualitative data. A total of 120 respondents were involved in the study. Quantitative data were mainly analyzed using a Statistical Package for Social Sciences (SPSS) to yield descriptive statistics and cross tabulations while content analysis was used to analyze qualitative data. The study found that all 120 respondents owned a mobile phone and used it to access improved chicken business information, apart from other uses. The accessed improved chicken business information was mainly about: chicks, transportation, feeds, extension services, veterinary services, markets, and financial institutions. However, women improved chicken farmers encountered many challenges related to the mobile phone use including bandwidth costs and poor networks. Thus, the study recommends the Misungwi District authority to collaborate with mobile phone companies to increase the number of networks and advise them to have a stability of bundle prices which are affordable to the farmers.**

**Keywords:** improved chicken farming business, mobile phone, women.

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## I. Introduction

Improved chicken farming is a sub-sector within poultry farming, and it plays a significant role to many families worldwide. It is potential for the provision of meat, eggs, feathers, and manure [1], [2]. Improved chicken has proved to be more productive in terms of eggs, meat production, fast growth rate and attaining market weight much earlier than local chicken [3]. [4]. Thus, improved chicken has potential for food security, income generation, health, poverty reduction, social ceremonies and ornaments [5]. [6]. In addition, chicken manure improves crop production. For instance, composting chicken manure from improved chicken has been used in gardens and farms to supply Nitrogen, Potassium and Phosphorous [7].

It is a common practice nowadays to find women involved in improved chicken farming. The aim of some women to keep improved chicken are to change the traditional practice into profitable and commercially oriented. In carrying out the business profitably, several challenges emerge. The challenges include poor access to extension services, high costs incurred in transporting chicks, feed costs, scanty market information, low education level of farmers, insufficient knowledge and experience about improved chicken farming and Information Communication Technologies (ICTs). Other challenges include poor housing, lack of disease control mechanisms, poor feeding, and a limited use of modern technologies [8]; [5]. [9], [7]. As such in solving the mentioned challenges, the use of modern technologies, particularly mobile phones, has proved to be useful in accessing the needed information [10]. Therefore, a mobile phone is potential in meeting information needs of improved chicken farming when used effectively and efficiently [11], [12].

Different studies on ICT, particularly mobile phones, have observed mobile phones to be useful in communicating agricultural information worldwide [13], [14]. Farmers use mobile phones to communicate with different stakeholders, to seek and receive information about agriculture. Thus, farmers in different countries have been reported to receive agricultural information through mobile phones [15]. In Africa, farmers have adopted mobile phone technology and apply it in agriculture [16]–[18]. A mobile phone has saved time for both farmers and extension officers through phone call and short message services. For example, an extension officer can call or send a message to farmers to provide information which is useful to them instead of visiting them individually.

In Tanzania, different studies have been conducted on mobile phones use with reference to agricultural and livestock information needs [19]–[21]. The studies

concluded show that when a mobile phone is used effectively and efficiently can contribute to the development of the agricultural sector. A mobile phone can play a significant role in the development of improved chicken farming business by women when used in an appropriate manner. This study targeted women improved chicken farmers since studies by [22], [23] revealed that woman chicken farmers are those who are struggling to participate in the family economy and are most involved in the poultry farming in the efforts to reduce poverty at the family level than other groups. By using mobile phones, women improved chicken farmers can easily search where the market is, seek and sort information about the prices of their produce, extension services as well as get connected easily with financial institutions. In order to do that, there is a need for improved chicken farmers to be connected to information communication. This paper therefore aims to determine the accessibility of improved chicken farming business information to women through a mobile phone in Misungwi District, Tanzania.

### *A. Conceptual Framework*

In this paper, the term 'accessibility' is operationally used to mean the ability to use a mobile phone to seek and receive information. The conceptual framework of this study is derived from diffusion of innovation (DoI) theory (See in Fig. 1). The independent variables studied are farmers characteristics (age, education level, marital status, income, occupation, location and the number of improved chickens kept) and technological characteristics (compatibility, observability, trialability, relative advantage and complexity). The assumption is that the independent variables will result in the accessibility of Improved Chicken Farming Business Information to Women Improved Chicken Farmers through Mobile Phones.

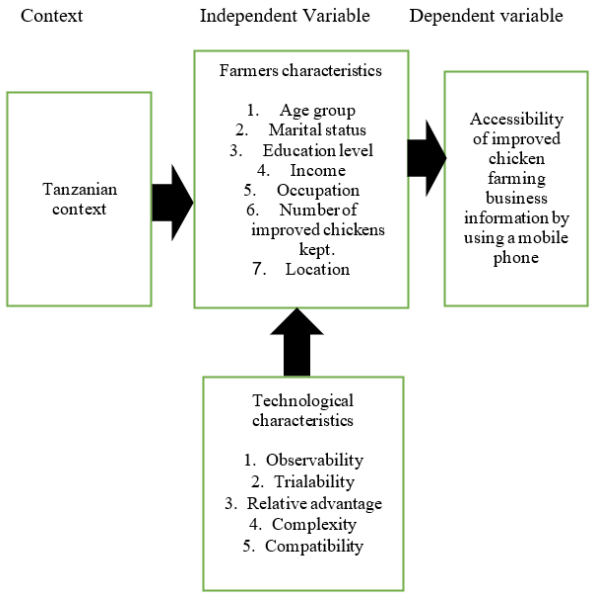


Fig. 1. The conceptual framework of the accessibility of improved chicken farming business information to women improved chicken farmers through mobile phones.

## II. Methodology

### *A. Description of the Study Area*

This study was carried out in Misungwi District, Mwanza Region, Tanzania. Eight villages were involved in the study as shown in (Table I and Fig. 2). The economic activities of people in the district include crop farming, livestock keeping and fishing. The district has 5 active mobile phone operating companies namely Vodacom, Airtel, TiGo, Halotel and TTCL. Misungwi District has a total of 298 866 mobile phone subscribers where 164 376 are females and 134 149 are males [24]. Misungwi District was selected for the study since the majority of the people are involved in agriculture and livestock keeping sector which is the focus of this study; the district is near Mwanza city where many commercial activities are found. Additionally, it was selected due to its significance in the number of improved chickens in the region compared to other districts in the region [25].

TABLE I: Study Area

| Divisions | Wards | Villages |
|---|---|---|
| 1. Misungwi | 1. Mabuki | Mabuki |
| | | Mwagagala |
| | 2.Misungwi | Masawe |
| | | Mbela |
| | 3.Idetemiya | Mwasonge |
| 2. Usagara | 4.Usagara | Bukumbi |
| | | Misungwi |
| | | Nyanghomango |

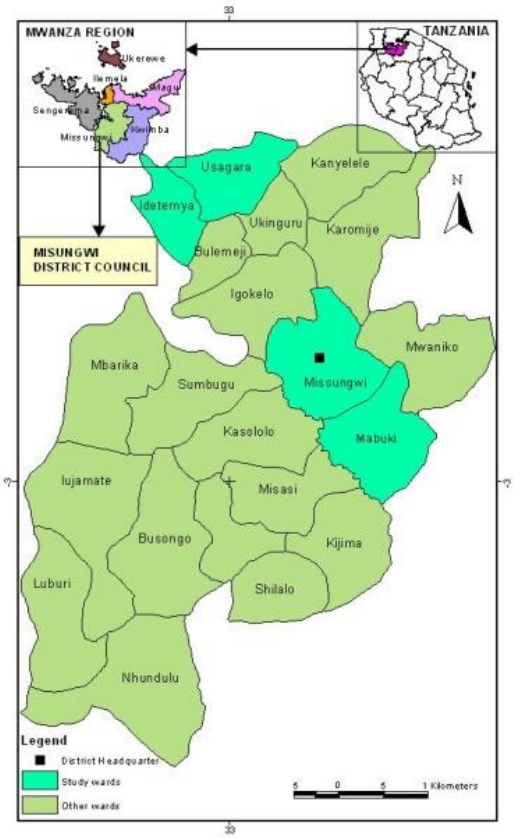


Fig. 2. Map of Misungwi District Council showing the location of the study area.

### *B. Research Design and Data Collection*

This study employed a cross-sectional research design. Data were collected at one point in time [26], [27]. The

study employed both quantitative and qualitative research methods [28], [23]. A structured questionnaire was used to obtain quantitative data from a total of 120 respondents. Qualitative data were collected from 7 key informants (the district livestock and fisheries officer (DLFO), four ward livestock and fisheries officers, and one from Vodacom Company) through in-depth interviews. Four focus group discussions (FGD) (one in each word) were conducted. Each FGD is comprised of 10 members. The selection of FGD members was based on their long experience (at least two years) in the improved chicken farming business.

*1) Study population and sampling procedure*

The study employed purposive sampling, random sampling, and snowball sampling methods. Purposive sampling was used due its freedom that allows the researcher to choose respondents who suit the need of a research, while random sampling was employed since it allows an equal chance to an individual to be selected. The snowball sampling method was employed due to its strength in identifying respondent and then referring to another one till the number of respondents needed is reached [27]. In this case, the identification of women engaged in improved chicken farming business after being introduced to one of them by the extension officer was very important. All women who kept improved chicken for business purposes and had mobile phones constituted the population of the study. Purposive sampling was done in selecting two divisions which were Usagara and Misungwi. These divisions were selected due to their nearness to Misungwi town, good transport and the availability of telecommunication networks compared to other divisions within the district. Random sampling was then performed to select two wards from each division making a total of four wards. Two villages from each of the selected wards were also randomly selected. Finally, by using the snowball method, 15 respondents were studied from each village, making a total of 120 respondents. Tools which were used to obtain data included a pretested questionnaire, key informant interview checklist and interview schedule for FGDs. According to [29] a sample of 80 - 120 respondents is quite enough to conduct socio-economic studies in Sub Sahara African countries including Tanzania.

*2) Data processing and analysis*

Survey data collected were coded, entered, cleaned, and analyzed by the aid of a Statistical Package for Social sciences (SPSS) Version 20 software. Descriptive analysis and cross tabulation were performed in order to obtain tables, percentages in order to see the relationship and association across the variables. The in-depth interview and FGD data collected were read for familiarization, coded, arranged into themes, which were reviewed, defined, and named, and finally, the results were written up [30]. The data were also analyzed by a means of content analysis.

## III. Results and Discussion

### *A. Mobile Phone Ownership and Usage*

Results in Table II show that all 120 respondents reported to own a mobile phone and use it for the improved chicken farming business. The findings imply that all (100%) of respondent had knowledge of seeking for information they needed about their improved chicken farming business. Furthermore, the findings revealed that both women improved chicken farmers and different agents in improved chicken business are connected to each other through the use of a mobile phone, thus they have access to information. The results are in line with findings by [31] and that of [21] who found that the majority (93.2%) and (100%) of respondents respectively, own mobile phones and use them in seeking information they want.

TABLE II: Mobile Phone Ownership and Usage (N=120)

| Response | Idetemiya | | Mabuki | | Misungwi | | Usagara | | Overall | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Respondent owning mobile phones | | | | | | | | | | |
| | n | % | n | % | n | % | n | % | N | % |
| Yes | 30 | 100 | 30 | 100 | 30 | 100 | 30 | 100 | 120 | 100 |
| No | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 30 | 100 | 30 | 100 | 30 | 100 | 30 | 100 | 120 | 100 |
| 2. Respondents' knowledge on how to use a mobile phone | | | | | | | | | | |
| | n | % | n | % | n | % | n | % | N | % |
| Yes | 30 | 100 | 30 | 100 | 30 | 100 | 30 | 100 | 120 | 100 |
| No | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| Total | 30 | 100 | 30 | 100 | 30 | 100 | 30 | 100 | 120 | 100 |

Similarly, during FGDs at Mabuki and Mwagagala villages, participants agreed that they own mobile phones and use them in their improved chicken farming business. This helps them to easily call chick dealers, transporters, feed companies, extension agents, veterinarians, and financial institutions officers in order to obtain information related to their business.
Also, it was said by one Key informant that:

> "*Whenever I want to give information on improved chicken farming business to women improved chicken farmers, I usually call them without any problems because all of them have mobile phones*".
>
> (Mabuki livestock officer, 19/5/2022).

### *B. B. Type of Network Used in Mobile Phones by Women Chicken Farmers in the Development of Improved Chicken Farming Business*

The common mobile phones networks operating in the study area include Tigo, Airtel, Vodacom, Halotel and TTCL. The overall results from the surveyed Wards showed that 66.7% and 54.2% of improved chicken farmers use Vodacom and Airtel mobile phones networks, respectively (Table III). Furthermore, the study found that some respondents (24.2%) use Tigo, (16.7%) use Halotel and (5.0%) use TTCL mobile phone networks.

Similarly, Massawe and Mbela villages FGDs participants reported that, Vodacom is the most preferred type of mobile phone network in communicating and accessing improved chicken farming business information in their area. They further agreed that Vodacom had good services in terms of sending and receiving money due to its stability in network.

TABLE III: TYPES OF NETWORKS USED IN MOBILE PHONES APPLICATION BY WOMEN IN IMPROVED CHICKEN FARMING BUSINESS

| Activity | Idetemya (n=30) | | Mabuki (n=30) | | Misungwi (n=30) | | Usagara (n=30) | | Overall (N=120) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | % | Yes | % | Yes | % | Yes | % | | |
| Tigo | 8 | 26.7 | 3 | 10.0 | 8 | 26.7 | 10 | 33.3 | 29 | 24.2 |
| AirTel | 11 | 36.7 | 19 | 63.3 | 15 | 50.0 | 20 | 66.7 | 65 | 54.2 |
| Voda -com | 19 | 63.3 | 22 | 73.3 | 19 | 63.3 | 20 | 66.7 | 80 | 66.7 |
| Halotel | 10 | 33.3 | 1 | 3.3 | 4 | 13.3 | 5 | 16.7 | 20 | 16.7 |
| TTCL | 3 | 10.0 | 0 | 0.0 | 0 | 0.0 | 3 | 10.0 | 6 | 5.0 |

During FGDs at Bukumbi village the participants agreed that there is only one mobile phone shop operating at Misungwi Township which Vodacom owns. Therefore, we like to use the Vodacom mobile phone network.

The study findings imply that choosing and using a mobile phone network largely depends upon availability, capacity, stability and varieties of services offered by a network such service desk and good network are crucial for women improved chicken farmers to decide on access to types of networks for their business. The findings agree with the finding of a study done by [32]. The Kacharo study findings revealed that networks with many customers care services and resident facilities are more likely to be used by many subscribers than those without such services. Additionally, the results are similar to those reported by [31], who found that a mobile phone network which is easily available, stable and clearly connected is likely to have many subscribers thus accessible.

### *C. Experience of Women Improved Chicken Farmers in Accessing Business Information by Using Mobile Phone*

Results in Table IV show the experience of women chicken farmers in accessing business information by using a mobile phone. Of the 120 respondents, 56 (46.7%) had experience of 2 to 5 years in accessing business information by using a mobile phone. Of all respondents 55 (45.0%) had experience of less than 2 years in accessing business information by using a mobile phone. Only 10 respondents (8.3%) had experience between 6 and 10 years in accessing business information by using a mobile phone. On the contrary, the results from individual wards showed that 63.3% and 56.7% of the respondents from Idetemiya and Mabuki wards respectively, had an experience of less than 2 years in using a mobile to access information about improved chicken farming business. Furthermore, respondents in Misungwi and Usagara wards reported to have experience of less than 2 years in using a mobile phone to access information about improved chicken farming business.

The result implies that all the surveyed women improved chicken farmers have a good experience in accessing improved chicken farming business information by using a mobile phone, though they differed in number years of experience. The experience which farmers had in using a mobile phone might be important since a study by [33] pointed that having experience is crucial in the acquisition of knowledge, use of modern technologies and capability in solving challenges facing their farming business.

TABLE IV: EXPERIENCE OF WOMEN IMPROVED CHICKEN FARMERS IN ACCESSING BUSINESS INFORMATION BY USING A MOBILE PHONE

| Period in years | Idetemiya | | Mabuki | | Misungwi | | Usagara | | Overall | |
|---|---|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % | N | % |
| Less than 2 | 19 | 63.3 | 17 | 56.7 | 12 | 40.0 | 6 | 20.0 | 54 | 45.0 |
| 2–5 | 9 | 30.0 | 11 | 36.7 | 16 | 53.3 | 20 | 66.7 | 56 | 46.7 |
| 6–10 | 2 | 6.7 | 2 | 6.7 | 2 | 6.7 | 4 | 13.3 | 10 | 8.3 |
| Total | 30 | 100.0 | 30 | 100.0 | 30 | 100.0 | 30 | 100.0 | 120 | 100 |

### *D. Type of Information Accessed by Women Improved Chicken Farmers in Improved Chicken Farming Business by Using a Mobile Phone*

The study results in Table V show that the majority of the women improved chicken farmers were using a mobile phone to access information about; improved chicken chicks (96.7%), chicken feeds (84.2%) and transport (74.2%).

TABLE V: TYPE OF INFORMATION ACCESSED BY WOMEN IMPROVED CHICKEN FARMERS IN IMPROVED CHICKEN FARMING BUSINESS BY USING MOBILE PHONE

| Information type | Idetemiya (n=30) | | Mabuki (n=30) | | Misungwi (n=30) | | Usagara (n=30) | | Overall (N=120) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Yes | % | Yes | % | Yes | % | Yes | % | Yes | % |
| Improved chicken chicks | 30 | 100.0 | 28 | 93.3 | 29 | 96.7 | 29 | 96.7 | 116 | 96.7 |
| Extension service | 23 | 76.7 | 20 | 66.7 | 9 | 30.0 | 27 | 90.0 | 79 | 65.8 |
| Chicken feeds | 28 | 93.3 | 25 | 83.3 | 21 | 70.0 | 27 | 90.0 | 101 | 84.2 |
| Market information | 24 | 80.0 | 20 | 66.7 | 7 | 23.3 | 27 | 90.0 | 78 | 65.0 |
| Transport | 25 | 83.3 | 21 | 70.0 | 16 | 53.3 | 27 | 90.0 | 89 | 74.2 |
| Veterinary service | 24 | 80.0 | 21 | 70.0 | 7 | 23.3 | 28 | 93.3 | 80 | 66.7 |
| Financial institution | 23 | 76.7 | 20 | 66.7 | 7 | 23.3 | 27 | 90.0 | 77 | 64.2 |

Similarly, during FGDs in Mwagagala Village, participants agreed that the whole process of ordering, transportation and picking up the chicks from the companies is done by using a mobile phone. In addition to that, one Key informant was quoted saying that:

> *"Mobile phone usage in my business has been helpful in easing my work otherwise it would have costed me more since travelling to the company to collect chicks would have been costly and a must."*
> (Usagara Silverland Company agent, 20/5/2022)

The study results imply that improved chicken chicks, chicken feeds and transport information are the immediate information which women improved chicken farmers mostly accessed by using a mobile phone to run their businesses successfully.

### *E. Challenges encountered by women in accessing improved chicken farming business information by using mobile phones*

Results in Table VI show that the majority 92 (76.7%) of respondents indicated that bandwidth costs and poor

networks are the challenges they encounter in improved chicken farming business.

TABLE VI: CHALLENGES ENCOUNTERED BY WOMEN IN ACCESSING IMPROVED CHICKEN FARMING BUSINESS INFORMATION BY USING MOBILE PHONES

| Challenges | Idetemiya | | Mabuki | | Misungwi | | Usagara | | Overall | |
|---|---|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | n | % | N | % |
| Cost of bandwidth | 4 | 13.3 | 2 | 6.7 | 1 | 3.3 | 2 | 6.7 | 9 | 7.5 |
| No problem | 2 | 6.7 | 2 | 6.7 | 5 | 16.7 | 0 | 0.0 | 9 | 7.5 |
| Poor network | 2 | 6.7 | 4 | 13.3 | 4 | 13.3 | 0 | 0.0 | 10 | 8.3 |
| Bandwidth cost and poor network | 22 | 73.3 | 22 | 73.3 | 20 | 66.7 | 28 | 93.3 | 92 | 76.7 |
| Total | 30 | 100 | 30 | 100 | 30 | 100 | 30 | 100 | 120 | 100 |

This also was agreed during FGDs at Bukumbi and Idetemiya villages that the price of band width costs and poor network are the most challenges they encountered in accessing improved chicken business information by using mobile phone. Furthermore, one Key informant said that:

> *"The price of bandwidth is costly and fluctuating without notice. For example, you can recharge your mobile phone with a certain amount of money expecting to have some good minutes. Surprisingly, you get less consequently, I am limited to speak more with women improved chicken farmers which I want to talk with, thus you spend more money and sometimes you cannot speak all want you wanted to talk about the business."*
>
> (Idetemiya ward Livestock officer, 20/5/2022)

The results indicate that a poor network connection and the costs of bandwidth are the most challenges encountered to access improved chicken farming business information to women improved chicken farmers by using a mobile phone. The challenges are therefore a setback towards development of improved chicken farming business by women in the study area. Similar results were reported by [34] who found that the major challenges facing farmers in using a mobile phone in their farming business are network failure and costs of running a mobile phone connection.

### *F. Respondent's Socio-Economic Characteristics Associated with the Accessibility of Improved Chicken Farming Business Information by Using a Mobile Phone*

Results in Table VII show the association between socio-economic characteristics and accessibility of improved chicken farming business information by women improved chicken farmers using a mobile phone. Significant association was observed between age, occupation and location of women improved chicken farmers. The variables were tested at 95% significant level.

Regarding age the results showed that the majority (70%) are youth and use mobile phones to access improved chicken farming business information. There is a statistically significant association between age and accessibility of improved chicken business information by using mobile phone at $Chi^2 = 10.661$, $p \leq 0.031$. This means that young women improved chicken farmers are more likely to access improved chicken business information since they struggle to participate and increase family income. The results are similar to those reported by [19] that age has a contribution to a mobile phone use in accessing agricultural information.

Further the result in Table VII shows that the majority (84.2%) of the respondents depend on livestock production. Therefore, there is a statistically significant association between occupation of women improved chicken farmers and accessibility of improved chicken farming business information by using a mobile phone since P value is less than 0.05. The findings imply that the occupation of a women improved chicken farmers had statistically significant association with the accessibility of improved chicken farming business information. This can be due to the fact that women improved chicken farmers access livestock production since they are much dependent on it for their livelihood. The findings are similar to those reported by [21] that the occupation of farmers other than crop farming influences the use of a mobile phone.

Similarly, a location of women improved chicken farmers was another aspect that influences the accessibility of improved chicken farming business information by using a mobile phone. The study showed that there was a statistically significant association between location and respondent's access to improved chicken farming business information at $Chi^2 = 17.347$, $p \leq 0.001$. The finding implies that the far distance from where the women improved chicken farmers are located the more likely a need to access improved chicken farming business information by using a mobile phone rise. The result is in line with a study by [19] in the use of a mobile phone in communicating agricultural information. Nyamba found that the distance from the farms to the markets necessitates farmers to use mobile phones to access agricultural information.

## CONCLUSION

The study concludes that the accessibility of improved chicken farming business information such as availability of chicks, market and transportation to women improved chicken farmers in Misungwi, Idetemiya, Mabuki and Usagara wards in Misungwi District cannot succeed, unless mobile phones companies take into consideration on the availability of a help desk/ shop, the bandwidth costs and network stability.

TABLE VII: RESPONDENT'S SOCIO-ECONOMIC CHARACTERISTICS ASSOCIATED WITH THE ACCESSIBILITY OF IMPROVED CHICKEN FARMING BUSINESS INFORMATION USING MOBILE PHONE BY WOMEN IMPROVED CHICKEN FARMERS

| Characteristics | Once (n=93) | | 2–7(n=27) | | Total (n=120) | | Chi-square | P-values |
|---|---|---|---|---|---|---|---|---|
| | n | % | n | % | n | % | | |
| Age groups 18–28 | 13 | 14.0 | 2 | 7.4 | 15 | 12.5 | | |
| 29–39 | 32 | 34.4 | 10 | 37.0 | 42 | 35.0 | | |
| 40–50 | 34 | 36.6 | 8 | 29.6 | 42 | 35.0 | 10.661 | 0.031 |
| 51–61 | 13 | 14.0 | 3 | 11.1 | 16 | 13.3 | | |
| >61 | 1 | 1.1 | 4 | 14.8 | 5 | 4.2 | | |
| Marital status Single | 8 | 8.6 | 4 | 14.8 | 12 | 10.0 | | |
| Married | 65 | 69.9 | 20 | 74.1 | 85 | 70.8 | | |
| Separated | 2 | 2.2 | 0 | 0.0 | 2 | 1.7 | 3.103 | 0.541 |
| Divorced | 12 | 12.9 | 1 | 3.7 | 13 | 10.8 | | |
| Living with friends | 6 | 6.5 | 2 | 7.4 | 8 | 6.7 | | |
| Education level | | | | | | | | |
| Non formal education | 2 | 2.2 | 1 | 3.7 | 3 | 2.5 | | |
| Primary education | 53 | 57.0 | 3 | 33.3 | 56 | 51.7 | 4.704 | 0.195 |
| Secondary education | 31 | 33.3 | 14 | 51.9 | 45 | 37.5 | | |
| College education | 7 | 7.5 | 3 | 11.1 | 10 | 8.3 | | |
| Occupation | | | | | | | | |
| Crop production | 8 | 8.6 | 1 | 3.7 | 9 | 7.5 | | |
| Livestock production | 81 | 87.1 | 20 | 74.1 | 101 | 84.2 | 9.538 | 0.023 |
| Employed | 2 | 2.2 | 4 | 14.8 | 6 | 5.0 | | |
| Petty business | 2 | 2.2 | 2 | 7.4 | 4 | 3.3 | | |
| Number of chickens kept | | | | | | | | |
| 50–100 | 4 | 4.3 | 2 | 7.4 | 6 | 5.0 | | |
| 101–151 | 11 | 11.8 | 4 | 14.8 | 15 | 12.5 | | |
| 152–202 | 35 | 37.6 | 7 | 29.5 | 42 | 30.0 | 1.594 | 0.810 |
| 203–253 | 29 | 31.2 | 10 | 37.0 | 39 | 32.5 | | |
| >253 | 14 | 15.1 | 4 | 14.8 | 18 | 15.0 | | |
| Location | | | | | | | | |
| Idetemiya | 28 | 30.1 | 2 | 7.4 | 30 | 25.0 | | |
| Mabuki | 22 | 23.7 | 8 | 29.6 | 30 | 25.0 | 17.347 | 0.001 |
| Misungwi | 16 | 17.2 | 14 | 51.9 | 30 | 25.0 | | |
| Usagara | 27 | 29.0 | 3 | 11.1 | 30 | 25.0 | | |

## RECOMMENDATIONS

The study therefore recommends that:

1) Misungwi District Council Authority should partner with mobile phones networks operating in the district to solve the challenges such as poor network and bandwidth costs facing women improved chicken farmers in accessing information they need for their business.
2) Also, the District Council Authority should advise other mobile phone networks which do not have mobile shops and expand horizon of services of their mobile phone networks to reach many farmers at any time they need similar or other services offered by the mobile phone shops.

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