

The Effect of Information Literacy on Maize Production: Case Study of Small-Scale Farmers in Inonge Village, Kazungula District of Zambia

Sylvia Chitola Mulele

City of Hope Secondary School
Ministry of General Education, Lusaka, Zambia

Chuma Sylvain Kanyamuna

Kasisi Girls Secondary School
Ministry of General Education, Chongwe, Zambia

Lubomba Mudenda Kanyamuna

Moniques Pre & Primary School
Ministry of General Education, Lusaka, Zambia

Vincent Kanyamuna

School of Humanities and Social Sciences
Department of Development Studies, University of Zambia, Zambia.

Paul Musanda

School of Humanities and Social Sciences
Department of Development Studies, University of Zambia, Zambia.

ABSTRACT

The study aimed at exploring the impact of information literacy on maize production and focused on a case study of small-scale farmers in Inonge village of Kazungula District in Southern Province, Zambia. Besides the review of relevant literature, the study conducted a questionnaire-based case study on 20 small-scale farmers and conducted an in-depth interview with one agriculturalist from the Ministry of Agriculture. The analysis of the study showed that farmers need information for various purposes to enhance their agricultural activities, and they use different sources and media to access such information. Many of the farmers, however, are not well aware of modern techniques of agriculture and they seldom use such techniques for farming. Due to some problems such as high rate of illiteracy, inadequate contact with agricultural extension officers, language barrier and bad television and radio reception, farmers are not satisfied in getting agricultural information. The paper concludes that information literacy has an effect on maize production and certain recommendations for policy, practice and further research have been provided for the improvement of information literacy of the farmers in Inonge village. These include government to reconsider public agricultural policy reforms on one hand and for the local communities and their leaderships to reorganize themselves and tackle the information challenges facing

them on the other. More focused research was still needed to understand and contextualize Inonge village agricultural challenges and prospects.

Keywords: agriculture; small-scale farmers; information literacy, maize, monitoring and evaluation, Zambia

INTRODUCTION

This study aimed at exploring the impact of Information Literacy skills (IL) on Maize Production among small-scale farmers in Inonge village of Kazungula district in Southern Province. Maize production in Zambia is practiced by both small-scale and commercial farmers. Generally, productivity levels are very low especially among the small-scale farmers and the medium-scale farmers who together account for over 90 percent of the total maize output [1,43,21,45].

The government and Non-Governmental Organisations (NGOs) have done a lot to try and improve the production of maize through subsidising agricultural inputs, but the production keeps on fluctuating. Some NGOs have contributed or donated farm implements such as animals, improved seeds and other tools to use in the fields to increase production. However, the improvement has been very insignificant over the years. In addition, there has been little done to empower farmers with information literacy skills. In an era of knowledge economy, information plays an increasingly important role in every sphere of the development process especially agriculture. Although deliberate efforts have been made by the international community as well as at national level to try and provide information to farmers, the benefits have continued to be negligible.

For instance, at international level there are programmes set by the Food and Agriculture Organisation (FAO) under the United Nations (UN) whose interest is in issues of food security and agriculture. FAO has come up with information systems called AGRIS, this is a global public domain with information or agriculture schemes and technology [3,13,16,24-27]. At national level, the ministry of agriculture provides information to farmers through programmes like Lima a television programme and indeed other radio programmes. However, farmers' information illiteracy and low yields of maize in Inonge village is not an exceptional.

The [31,28,9,34,36] contends that agriculture remains crucial for pro-poor economic growth in most African countries, as rural areas support about 70- 80% of the total population. Maize production is the source of income in the sense that the income generated by selling maize is used to resolve many household problems like paying school fees for their children, pay for health bills and other basic needs pertaining to their day-to-day consumption.

However, there has been a decline in maize production over the last decade and people were wandering whether the problem was due to inadequate information on climate change and crop diseases which threaten household food security. The new technologies that have increased smallholder maize production and of late the spread of new technologies have been more important for maize than other food crops. This could provide lessons for further increase in maize production. Assessing farmers' information literacy and its effectiveness in maize production can result in technology adoption [20,11,51,55-58].

In the past, agricultural extension officers played a vital role in providing information to farmers on their agricultural related challenges they faced [41,60,18,23]. For Inonge village, the office of the agriculturalist is established in the neighbouring village called Simango. This focal point person is charged with the responsible of educating the farmers on the types of seed varieties, checking their fields and giving technical advice on how to control pests and crop diseases. Unfortunately, however, all these services are no longer provided for by the government and farmers have for a long time now been vulnerable and their crop productivity has continued to deteriorate. At the moment, the agriculturalist in the area only provides ad-hoc and irregular support to farmers leading to negligible impact on yields.

Farmers have to be empowered with information literacy skills to be able to know when there is a need for information for instance, the information on which type of seed to grow in times of changes in climate, when to plant, how to control pests and diseases, where to sell produce just to mention but a few [34,47,49,53]. It is for this reason that this research endeavours to find out local farmers' views and perceptions on the impact of information literacy skills on maize production.

This study therefore gives information collected from farmers about the types of information needed by farmers themselves, major problems encountered by the farmers when accessing and using information on maize and suggestions on some effective measures to improve the overall situation of information literacy of farmers in Inonge village. The ultimate findings are used to make recommendations regarding the improvement of maize production and productivity in the area and beyond.

STATEMENT OF THE PROBLEM

The researchers' past informal interaction with the people of Inonge village and own observations revealed that there was inadequate information on farming from the time the Ministry of Agriculture and Livestock stopped sending them extension officers to work in the area. This meant that farmers just used the little knowledge they had in farming. As mentioned earlier that a farmer who is information literate accesses information efficiently and effectively, evaluates information critically and competently uses information accurately and creatively. The farmers in Inonge village lack these skills, they are apparently ignorant of where to get information on appropriate breed of maize to plant, when to plant and how to take care of their crops until harvest and post-harvest management. Information literacy skills are capable to improve production in the sense that farmers will on their own access this information and use it practically on the farm [29,2,10,49]. The cooperatives they form are just to facilitate accessibility of inputs such as seed and fertilizers, without teaching or providing them with relevant information needed.

Despite the fertilizers that the government gives every year farming in Inonge keeps deteriorating, because farmers are not empowered with information literacy skills which could enable them search for information and solve their current challenges. For instance, the previous farming season (2019-2020), the rains delayed to come and stopped early leaving immature maize, this was due to lack of weather forecast information made available to farmers. In the event where farmers have information literacy skills, the solution could have been found by the farmers themselves. Therefore, a study taken to assess the impact of information literacy

on maize production aims at lifting the living standards of the local people as well as ensuring food security in the country.

This research process therefore, will strive to understand the extent to which farmers in Inonge village have been affected due to less access to agricultural information. The information scope is taken from a general point of view here, ranging from crop information with regard to farming technologies, weather, inputs, marketing and indeed animal husbandry and the media used to access information. Collectively, this information is what makes up the rural welfare especially that of Inonge village. A lapse in any one of them may have potential negative effects on the socio-economic welfare of the local people and indeed the nation at large. So, the investigation is motivated by the realization that Inonge village, a once thriving area in maize production has over the years become less productive and subjected to food insecurity. In spite of the various other reasons that may exist to explain this situation, this research zeros down on the effect of information literacy on food insecurity in Inonge village. In this era of information explosion, information is plenty and all what farmers need to have are IL skills for them to select the appropriate information to solve their specific challenges.

RESEARCH OBJECTIVES

Main/General Objective

The main objective of this study is to assess the impact of information literacy on maize production in Inonge village of Kazungula district in Southern Province.

Specific objectives

- To identify different types of information needed by farmers
- To assess the information literacy skills of the farmers
- To find out major problems encountered by the farmers when accessing information on maize.
- To suggest some effective measures to improve the overall situation of information literacy of farmers in Inonge village.

RATIONALE

Information Literacy as already elaborated provides a fundamental opportunity not only to the local farming communities but it also works as a platform for government to share with farmers' various news pertaining to agriculture [14,56,46]. The results of this study will therefore be an important addition to the existing body of knowledge, particularly with regards to rural and small-scale holder farmers. Consequently, the information will infiltrate in influencing government policy especially that the bottom-up flow of agricultural information is usually weak [5,17,37,42].

Furthermore, Information Literacy as a universally applicable concept benefits not only specific targets in this case rural and small-scale farmers; in fact, it has potential to inform any profession or field of study [22,38,19]. Thus far, the results of this research will be a useful complement to the academic field, more so to the future researchers and those interested to understand the challenges facing rural farmers in Zambia. Another important contribution of this research study concerns the fulfilment of the researchers' academic and personal curiosities on the study topic.

METHODOLOGY

Research Design

This research study employed the qualitative approach and was based on a social situation with a view to improve the quality of action within the study area. The method was chosen because it was appropriate for this Case study since the outcomes will generally increase knowledge, understanding and improve practice among agriculture stakeholders [32,43,39,50].

Secondary data

Secondary data was collected from books and journals accessed from libraries such as the University of Zambia (UNZA) library and other information centres, the internet and some conversations with experts in the field of agriculture. Other sources included the Zambia Environmental Management Agency (ZEMA), Ministry of Agriculture and Livestock, Zambia Information Services (ZANIS) and the Zambia Meteorological Department. Information collected included the types of information farmers needed and the types of media used to access such information, information literacy skills of farmers, the major problems encountered by farmers when accessing and using information and measures taken to control such problems.

Primary data

Primary data was collected using the questionnaires with closed and open-ended questions. This research made use of the open-ended questions in order to give respondents freedom to express themselves when answering the questions. In case of those respondents who were unable to read and write, the researchers administered the questions in person and recorded their responses. For the Agriculturist, an in-depth interview guide was used. The interview guide is interpersonal and allowed the researchers to establish understanding with the respondent thereby getting detailed information. A list of questions on specific topics was covered.

Study site and target population

This study was based on farm level data from small scale maize farmers in Inonge village of Kazungula district in Southern Province. The study area comprised of one village (Inonge) which is located in rural Zambia, over 400 kilometres south of the capital Lusaka. It has a land mass of approximately 30 km² and a population of over 120 households.

Inonge village was founded in 1940 by ten men and women who decided to branch off or separate from the neighbouring Simukali village. One of the reasons of living Simukali village was in search of a fertile land for farming and grazing land for their animals. Compared to other neighbouring and far away villages, Inonge village is relatively smaller yet very productive in terms of maize and keeping animals.

For many years now, when it is rain season, all the people in this village shift from their permanent homes to where their fields are located where the land is fertile about 12km, and only one or two people would remain per household to take care of the livestock. More than 90 percent of the crops grown in this area are maize varieties, which is the staple food of Zambia and particularly in Southern province. Nevertheless, there are other crops grown and these include groundnuts, sorghum and finger millet. From its inception, Inonge village was known to be the highest producer of maize amongst the surrounding villages and was given different

names such as 'Kwa Uje', 'Kumakalanguzu' and 'Kumankolola' among others. These are praising names basically coming about as a result of the place being inhabited by strong and productive people. To date, Inonge village continues to enjoy these names of good will despite the great deterioration in maize production due to among other factors limited access to information on how to cope up with drought and animal disease.

Target Groups and Sampling procedures

The target group consisted of the small-scale farmers in Inonge village where the research was undertaken. These are the people who do the actual farming and whose information literacy levels were explored. This target group was important to study because the respondents gave information which was primary and consisted the main information required by the study. The empirical data collected from this primary target group formed the basis of this study and provided an insight to the study topic. Specifically, twenty (20) small scale farmers were purposively sampled from the total number of village households and interviewed.

In addition, the second target group involved the Agricultural Extension Officer in charge of the area based in Livingstone town. The office of the extension officer is an important one in that it provides information literacy of technical in nature to the farmers of Inonge village and the surrounding areas. The responsible officer collaborates with the local farmers through information sharing and various extension works. The researcher deemed this person resourceful for this research study.

The sampling technique employed in this research study was purposive sampling. This involved a selection of respondents from the target population, which involved the village households. This type of sampling was selected out of many types of sampling because the study had specific characteristics needed for respondents, and these characteristics required that the respondents should have been maize farmers of small-scale in nature.

Data analysis and interpretation

Data analysis was done after primary data was collected and organized. The answered questionnaires were checked for uniformity, accuracy and completeness. The researcher verified the data collected and grouped the open and closed ended questions separately. All responses to the questions were read through and grouped according to responses by picking similar ones and grouping them in one category and those not similar were also grouped in different categories.

Further, the Ms-Excel software was suitable for this study to describe and analyse these data. The analysed data was systematically presented using frequency tables and graphical presentations.

Ethical considerations

In this research ethical issues considered included; respecting the culture of the respondents, confidentiality and the findings of the research were presented as they were collected without being doctored in any way. The political affiliations of the respondents were respected as well. Ultimately, the research was conducted with the highest care and desire to produce results of the highest credibility and reliability. Therefore, ethical considerations of any sort were given high priority and commitment to safeguard the final findings. These aspects were managed with

the aim to ensure the research results and recommendations have validity credibility with potential to be replicated to other areas across the country's farming communities.

Research Limitations

The study was conducted purely for academic and personal fulfilment purposes on a limited scope and the findings would not be universally applied in explaining the impact of agricultural information literacy on maize production. Financial constraints were another challenge faced, making it difficult to reach out to some organisations and government ministries and departments during data collection. However, triangulation of methods through use of various literature assisted to find some useful information to enhance the research.

PRESENTATION OF FINDINGS AND ANALYSIS

This section presents the findings obtained from the field research. A total of 20 questionnaires were used in this study. Of these, 19 questionnaires representing 95% were administered by the researchers and one questionnaire accounting for 5% was self-administered to one respondent. Responses were obtained from all the targeted respondents giving a 100% response rate and the respondents who participated in the study comprised of both male and female small-scale farmers.

Information on the sex of respondents

Table 1: Sex frequency distribution

Attributes		No. of farmers	Percentage
Sex	Male	9	45
	Female	11	55
	Total	20	100

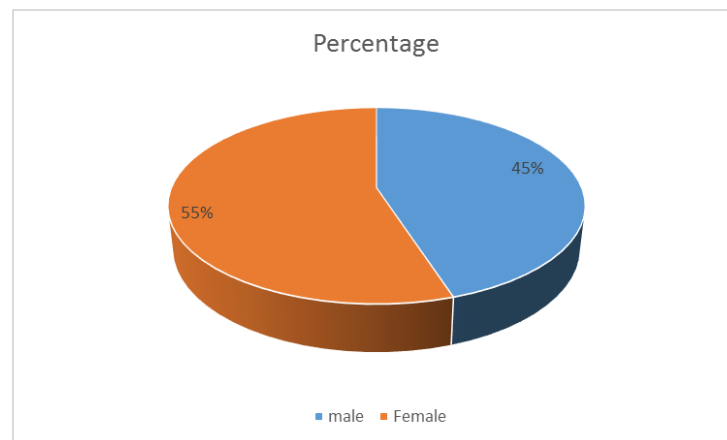


Figure 1: Sex Distribution

Information about the sample of respondents indicated that more women than men were involved in agriculture. This could be attributed to increased numbers of women involved in agriculture productivity world-wide and particularly in Africa where over 80 percent of livelihoods are based on agricultural related activities. The other reason could be that in most cases especially in a rural set up women are the ones involved in productive activities to ensure that food is enough for their families. According to [33], a good number of women are in informal employment such as small businesses and farming, meaning that unemployment is

another factor that is making women to be more involved in farming. [35] have observed that women in Less Developed Countries (LDCs) agrarian systems particularly in Africa and Asia play a crucial role in agriculture production. They asserted that in Africa where subsistence is predominant, nearly all tasks associated with subsistence food production about 70% or 80% are performed by women. Generally men perform the initial task of cutting trees and bushes on a potentially cultivable plot of land, women are responsible for all subsequent operations, including removing and burning felled trees, sowing or planting the plot, weeding, harvesting, and preparing the crop for storage or immediate consumption.

Age Distribution

Table 2: Age Frequency Distribution

Attributes		No. of farmers	Percentage
Age	< or = 20 years	1	5
	20-39 years	6	30
	40-59 years	11	55
	60 years and above	2	10
	Total	20	100

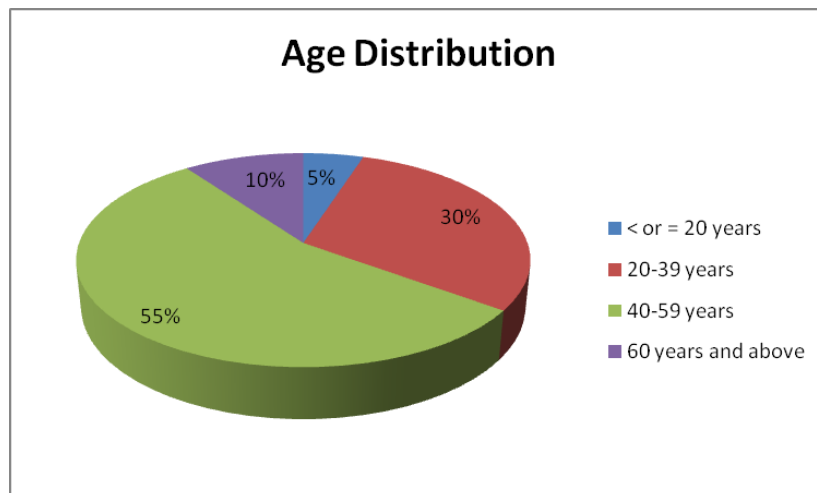


Figure 2: Age Distribution of the respondents

On finding out about the age of the respondents, most of the respondents were between the ages of forty (40) and fifty-nine (59), implying that there were more old people involved in agriculture in Inonge village. The other reason could be rural-urban migration in which the majority of the young people have migrated to urban areas to look for formal employment living old men and women in farming. The age of the respondents was important because the study was on the information literacy skills and its impact on maize production. The age could be a factor in the sense that eldest people are not very much up to date with technology and may not be interested in searching for new information.

Level of education

Table 3: Level of Education frequency distribution

Attributes		No. of farmers	Percentage
Level of education	Primary	13	65
	Secondary	5	25
	Tertiary	0	0
	None of the above	2	10
	Total	20	100

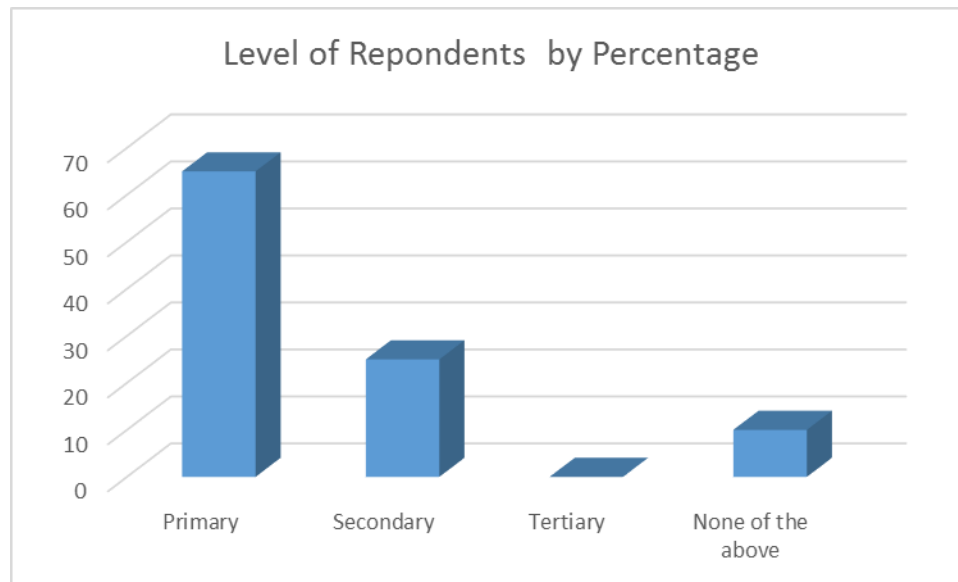


Figure 3: Level of Education of Respondents by percentage

The table and graph above shows that most of the farmers in Inonge village only attained primary education. Concerning the relationship between sex and education attainment, the study revealed that more males attended secondary school than females who are the majority in agriculture. The level of education attainment of respondents was an important factor as it had influence on respondents' perceptions and attitudes towards searching for agricultural information. It could be said that production levels in Inonge keeps on going down because of high illiteracy levels in the area. It is easy to disseminate agricultural information to relatively educated farmers as they will follow and apply better farming methods that would eventually lead to good farming yields. It is therefore, imperative that farmers attain some level of education for them to participate in the farming activities successfully.

Experience in farming

Table 4: Experience of respondents in farming

Attributes		No. of farmers	Percentage
Experience in farming	5 years and less	2	10
	6-10 years	3	15
	11-15years	3	15
	16 years and above	12	60
	Total	20	100

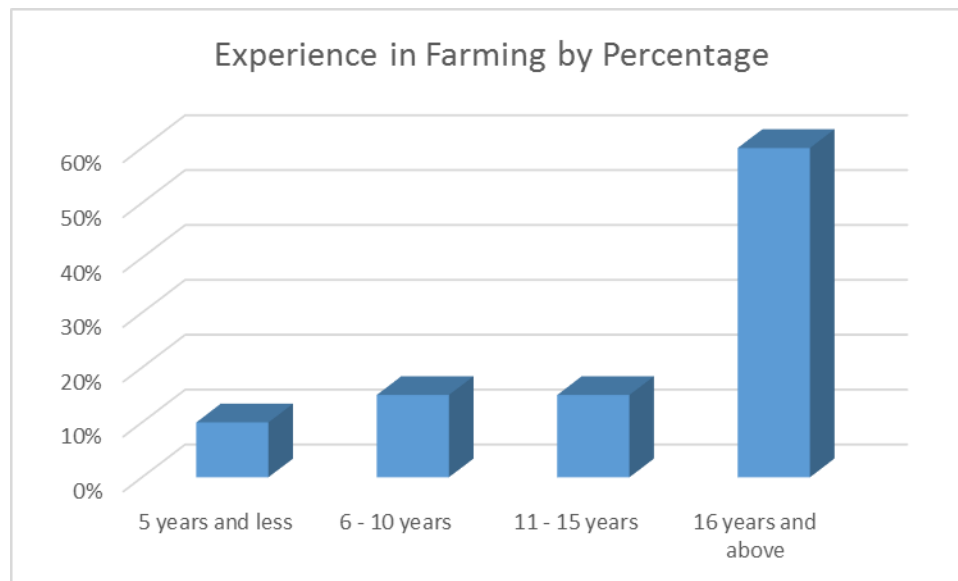


Figure 4: Years of experience of respondents in farming by percentage

When asked how long farmers have been involved in farming, the study showed that most of the farmers have been into farming for sixteen (16) years and above. This implies that it does not matter how long one has been in farming, agricultural information is relevant to all farmers in the world of technology. It could be concluded that farmers should be information literate and skilled for them to access agricultural information such as modern farming techniques and information on climate change which are necessary in maize production. There are changes in rainfall patterns almost every year which can lead to low yields if the farmers are not aware of the changes. Therefore, it could be said that Inonge village farmers are producing low yields despite their long experience in maize farming because of changing climatic conditions which comes with its new pests and diseases that consequently attack crops.

Information needs of farmers

Table 5: Information needs of respondents

Type of response	Number of respondents	Percentage
Seeds and Planting Material	15	75
Modern technology	12	60
Fertilizer management (organic and chemical)	10	50
Diseases and pest management	9	45
Marketing information	7	35
Weather information	7	35
Storage of crops	6	30
Others	4	20

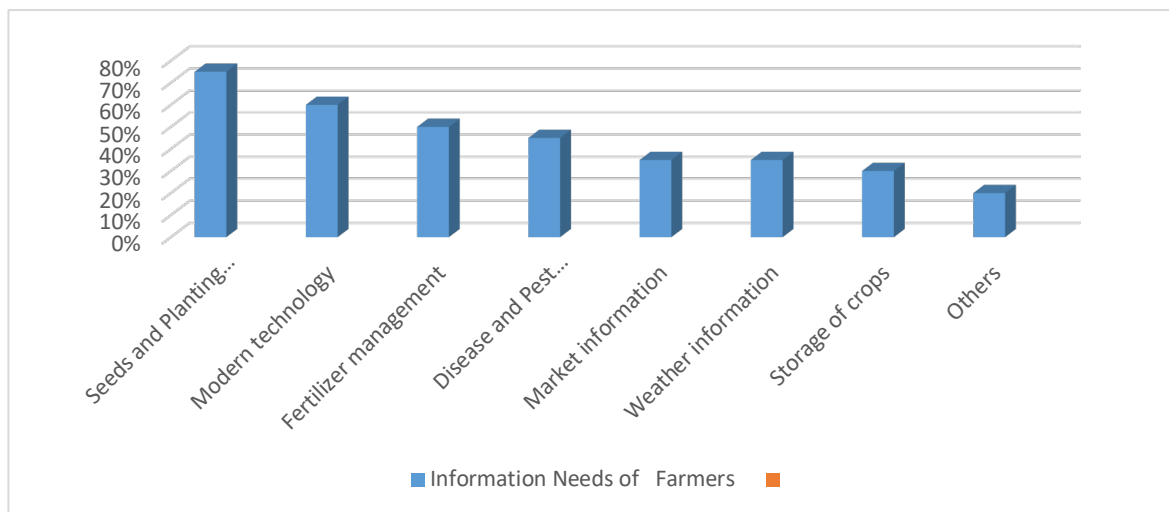


Figure 5: Information needs of respondents distribution by percentage

When farmers were asked to list the types of information they needed in Inonge village to do their farming, the table and graph above show various categories of information farmers indicated. The majority indicated that they needed information on seeds and planting materials, Modern technology, Fertilizer management (organic and chemical), Diseases and pest management, Marketing information, Weather information, Storage of crops and others. Each respondent listed as many as possible the information they needed in their maize production.

The findings of this research are in line with [4,54,44,59] who argued that farmers need various types of information such as information on modern cultivation system, seeds and planting materials, diseases and pest management, manure and fertilizer management, weather information, soil and water conservation, irrigation, government schemes on agriculture, post-harvest techniques, market information, weeding and Storage of crops. The results of an interview with an agriculturalist revealed that farmers need different types of information such as climate change which can give insight on the weather pattern and what crops should be planted in case of drought. A farmer with information literacy skills would access the required information and use it appropriately hence, improvement in productivity and production. These results entail that agricultural information has a bearing on the production of maize.

Media and tools for accessing agricultural information

Table 6: Media and tools for accessing agricultural information distribution

Type of response	Number of respondents	percentage
Agriculture Extension officers	9	45
Television and radio	5	25
Community leaders	3	15
Others	3	15
Total	20	100

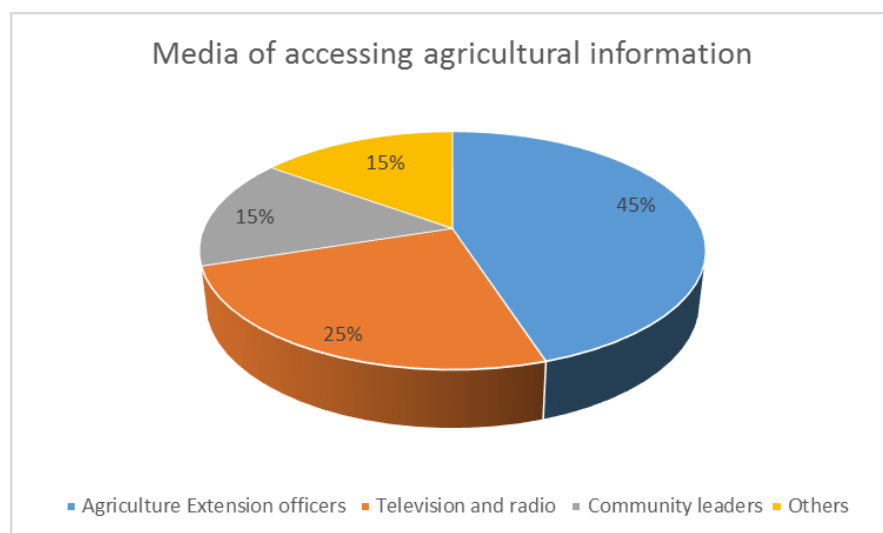


Figure 6: Media of accessing agricultural information

Farmers were asked to state the media or tool they use to get agricultural information and the majority indicated that they got agricultural information from the extension officers. While others stated that they got agricultural information through television and radio, community leaders and others media. These results entails that farmers are only accessing information using audio-visual media, which could mean that farmers shunned electronic and printed materials due to low levels of education.

The agriculturist confirmed that they could only disseminate information through open community meetings, workshops and trainings. The findings agree with [7,1,37,48] who observed that farmers lacked computer skills and he asserted that computer skills are a must for farmers to compete in today's marketplace and in the world of information age. These findings could be also likened to [28,40,12] study results who discovered that one-on-one and personalized communications were preferred by farmers, and any electronic information was not welcomed by farmers because they were not able to read and apply the knowledge acquired. The results of this research entails that farmers in Inonge village are limited in their information search because they are not able to use other Medias to access, process and transmit information especially computer technology.

Places where to access agricultural information

Table 7: Places where to access agricultural information from

Places of access to information	Number of respondents	Percentages
Govt. Agricultural information centre	0	0
Community information centre	0	0
Library	0	0
None of the above	19	95
Others	1	5

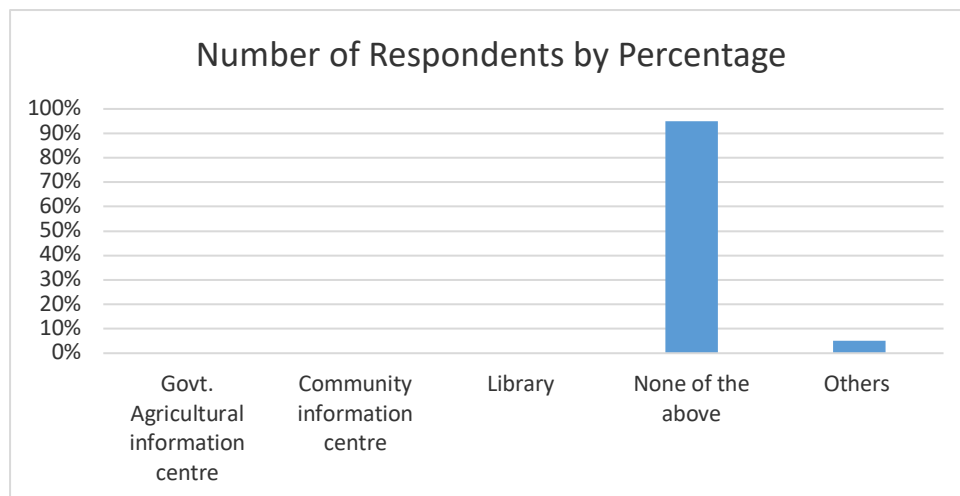


Figure 7: Places where respondents access agricultural information

When farmers were asked to tick information centres found in Inonge village, a good number of them indicated that there was no information centre of any kind, not even a library in the area. The finding of this research could entail that, maize production has deteriorated over the years due to lack of agricultural information centres where farmers could get information. The changes in the onset and cessation of rain have negative impact on maize production over the years and this pose a serious threat to household food security since maize is the staple food of most Zambians. Consequently, effective and efficient agricultural information centres should be promoted to prepare stakeholders in maize production systems to enhance their resilience and flexibility. The provision of agricultural information centres in the area would improve the poor information seeking patterns among farmers and eventually increase maize production.

Skills in using information tools

Table 8: Skills in using information tools

Skills in using information tools	Number of respondents	percentage s
Using mobile phone to communicate	16	80
Using internet	0	0
Using computer, multimedia & AV equipment	4	20
Retrieving information from online	0	0
Total	20	100

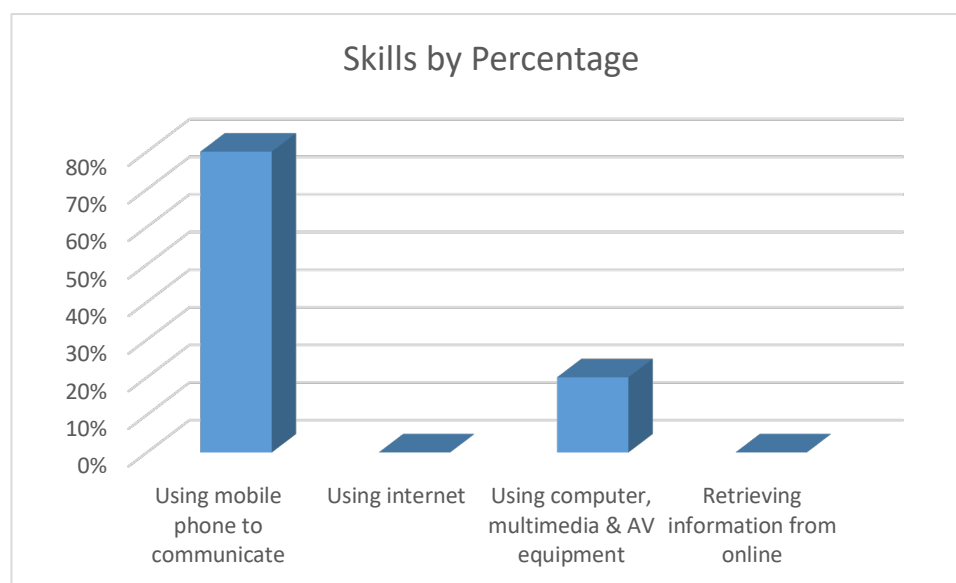


Figure 8: Information literacy skills of farmers

With regards to the information literacy skills, farmers were asked to tick the information tools they were able to use without problems. Most of the farmers indicated that they were able to use mobile phones to communicate and few were able to use computer, multimedia and AV equipment to access information. The above findings could entail that the availability of information online does not matter, what matters is whether farmers have the skills to retrieve the right information and use it appropriately. The majority farmers in Inonge village are not able to use computers to access agricultural information. The results concur with [17,46,21,52] who argued that the flow of information is incomplete because the farmers cannot access this information because it is published online and most farmers do not know how to search for information because their skills are poor. The results entails that agricultural information could be available but farmers are not able to use the tools at their disposal to get information on how to improve their maize production.

Modern agriculture techniques used in farming

Table 9: Modern agriculture techniques used in farming

Modern techniques	No of respondents	percentages
Improved seeds	8	40
Not used any modern agriculture techniques	6	30
Modern agriculture equipment and technology	3	15
Others	3	15
Total	20	100

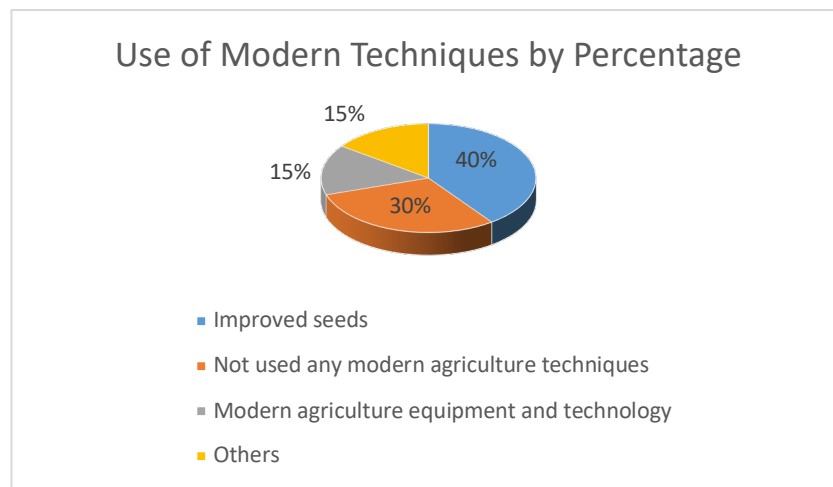


Figure 9: Modern agriculture techniques used in farming

When finding out about the modern techniques farmers used, the study revealed that a good number of farmers used improved seeds, amid those who did not use any modern agriculture technique. A few also indicated that they used modern agricultural equipment and other technologies. The study revealed that some respondents were informed on the benefits of using improved seeds. The relationship between education and the use of improved farming techniques, the study revealed that most of those who practised new techniques were those who attained secondary level of education.

The agriculturist admitted that farmers do not use spraying machines and portable trailers and neither do they use effective pesticides, mechanized land preparation nor gloves when dealing with DDT despite providing information to them. These results are in line with [30] who asserted that there is a huge knowledge gap between what is demonstrated at experimental farms and what is actually practiced by farmers in their fields. Even when farmers are aware about the effects of some pesticides they do not protect themselves by using gloves. This could be attributed to widespread illiteracy as a major factor for lack of use of agricultural information.

Farmers' satisfaction in getting agricultural information

Table 10: Farmers' satisfaction in getting agricultural information

Satisfaction	Number of respondents	percentages
Satisfied	2	10
Not satisfied	18	90
Total	40	100

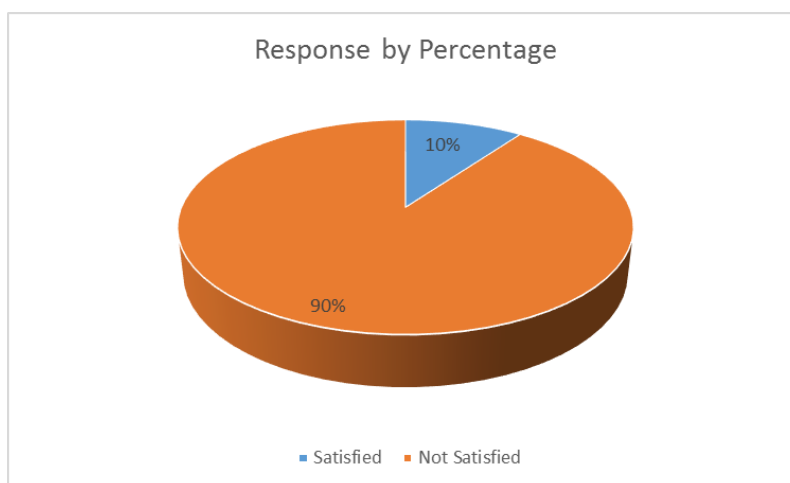


Figure 10: Farmers' satisfaction in getting agricultural information

When finding out whether respondents were satisfied in getting agricultural information, almost all the farmers indicated that they were not satisfied. The agriculturist explained that they only provided information to farmers once every year due to inadequate funding from government. This scenario could be among the various reasons behind poor or low agricultural productivity among the farmers in Inonge village. Therefore, it is in this regard that it could be concluded that for agricultural information to be effective and of good use to small-scale farmers in Inonge village, it must be delivered to them on a regular basis and at appropriate times. This could entail that maize production in Inonge village has gone down because of lack of agricultural information provided to them or the high levels of illiteracy in the area.

Major problems encountered in accessing agricultural information

Table 11: Major problems encountered in accessing agricultural information

Problems	Frequency	percentages
High rate of illiteracy	7	35
Inadequate contact to extension agents	3	15
Language barrier	4	20
Bad TV & Radio reception	6	30
Total	20	100

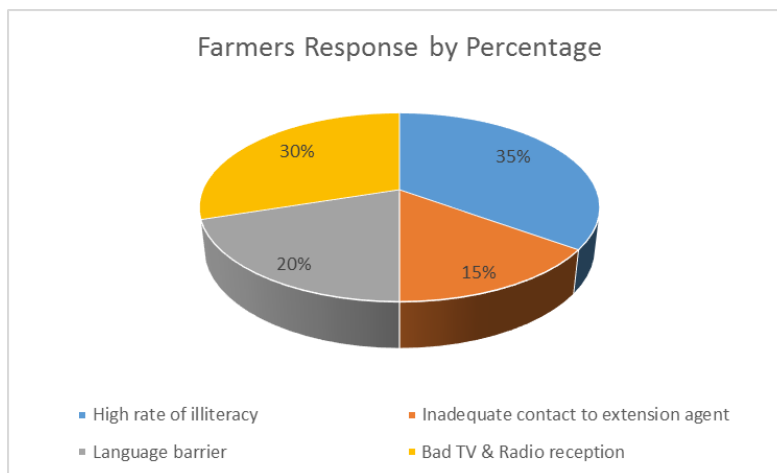


Figure 11: Major problems encountered in accessing agricultural information

When finding out the problems small scale farmers faced in accessing or obtaining agricultural information in Inonge village, the study revealed that most of the farmers had problems with reading and writing (high levels of illiteracy). This study also pointed out language barrier as another hindrance to accessing agricultural information. Most of agricultural information is published in English language and in inappropriate formats in some instances. Those farmers who owned radios and television sets faced a problem of poor receptivity.

Some farmers indicated that inadequate contact to extension agents, as it has already been alluded to receive information once a year, and therefore Extension Agents and specialists should expand their role in building relationships with farmers. When looking at the relationship between education and problems faced in accessing agricultural information, more than 60 percent of farmers who did not attain any education and those who only attained primary education faced problems of language. The study findings showed that there is a significant relationship between education levels and problems faced by farmers. Therefore, it could be said that vast majority of agricultural producers are not educated, which makes it difficult to disseminate agricultural information as farmers may not follow or apply extension methods eventually leading to poor farming yields and long term productivity.

Interventions to solve the problems

Table 12: Interventions to solve the problems

Types of responses	Number of respondents	Percentage
Extension officers reintroduced	10	50
Farming information should be Tonga	3	15
Improve TV & Radio reception	4	20
Others	3	15
Total	20	100

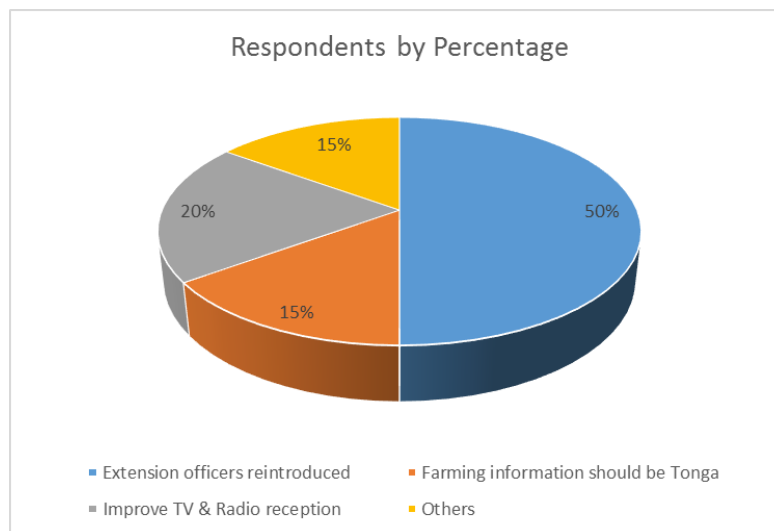


Figure 12: Interventions to solve the problems

When finding out the interventions to the problems identified in table 11 above, most of the farmers suggested as shown in Table 12 that agricultural extension officers should be

reintroduced with the view to give technical advices to farmers in the area, they emphasized on the regular provision of agricultural information. Most of the farmers suggested in addition that any agricultural information should be published in their local language which is Toka (a Tonga dialect) and that the radio and TV receptions should be improved. On the high levels of illiteracy, farmers suggested that their information literate can improve if education was done on the basis of one-on-one and face-to-face educational delivery arrangements.

CONCLUSION

This paper has presented findings of a field study undertaken in Inonge Village located in Kazungula District of Southern Province on the subject of the impact of information literacy on maize production. Information is a vital resource for all socio-economic activities and there is no such field of human endeavour where information is not a key component. According to this study, information literacy has an impact on maize production. This is so because findings revealed that once farmers' various types of information for farming are met, there is a possibility that maize yields would be high. The information required ranged from information on seeds and planting materials, Modern technology, Fertilizer management, Diseases and pest management, Marketing information, Weather information, Storage of crops and government schemes. The findings revealed that this information was not provided timely and regularly and this could be the reason why maize production is deteriorating in Inonge village.

In Inonge village, farmers could only get information from the agriculture extension officers, community leaders, radio and TV programmes and were not able to get information from online, books, encyclopaedia and other information sources. The problem perhaps has been worsened by lack of community information centres where they could access agricultural information.

The negative impact of information literacy on maize production is felt when farmers fail to use modern techniques in agriculture because of illiteracy and lack of information literacy skills hence, low yields. Information literacy impact on maize production positively in the sense that, informed farmers make right decisions in terms of seeds planted, right application of fertilisers, crop maintenance, pests and disease control leading to high yields. Therefore, there is a need for extension agents to lay more emphasis on sustainable practices and also to disseminate information to farmers and address their needs properly. Based on the prevailing situation, improvement of overall information literacy of farmers in Inonge village is basic.

Therefore, Small-scale farmers in Inonge village in this information age need to be information literate if they are to make use of modern technology, interpret market signals, remain competitive and increase their production.

RECOMMENDATIONS

From the research findings, the following recommendations at policy, practice and research levels should be taken into account so as to improve the information literacy of farmers and ensure food security in Inonge village particularly and the country at large.

At Policy level

The government through the Ministry of Agriculture and Livestock should come up with educational programs designed for farmers so that they could improve their information

literacy skills and access to agricultural information easily. The Ministry should ensure that farmers receive adequate training by the agricultural extension agents on regular basis. For this, extension agents who are professionally trained for information dissemination to farmers should be sent to the villages frequently or better still become residents to these productive locations.

Governments should take proper initiatives to encourage and assist farmers, increase agricultural education among youth in rural areas and make agriculture an attractive and economically viable option for them to improving food security and livelihoods.

The government should ensure that all information providers reach the rural areas by providing necessary infrastructure such as good road network, libraries, community information centres, rural electrification and other internet facilities to small-scale farmers. Development of rural electrification is required in order to render modern agricultural information services or facilities to farmers on a door to door basis.

At Practice level

Government through the Ministry of Agriculture and Livestock should assist farmers by considering granting incentives and assistance to the agricultural sub-sector and to the farmers in form of credit as these would enable them take action to use sustainable agricultural practices.

Adult literacy programs are required to help the farmers acquire basic skills and abilities to seek and receive needed agricultural information through modern communication channels. Joint training and information literacy awareness programs between the government, organization and foreign research institutes should be promoted to strengthen farmers' capability in the production system. There is a need to broadcast agricultural information on radio and television frequently, in local languages, to enable the illiterate farmers understand and apply the innovations.

Community outreach programmes should equally be organized and used to disseminate information that would aid the socio-economic, political and general enlightenment of the rural farmers. Finally, and probably the most urgent effort is for local leaders in Inonge village and surrounding areas to structure their communities into functional cooperatives and farmer groups to institutionalize agricultural information sharing. Through these groupings, sustainability of information sharing and practice become possible and intergenerational.

At Research level

The government must through funded research seek and accommodate research needs of small farmers, moving away from the agricultural research agendas that are mainly set with an orientation to the wishes of commercial farmers. This applies just as much to weather patterns, seed varieties, pesticides and disease control and marketing research.

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