ACCESS TO AND USE OF INFORMATION ON TOBACCO PRODUCTION HEALTH HAZARDS BY FARMERS IN KURIA WEST SUB-COUNTY, MIGORI COUNTY, KENYA

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A Thesis Submitted to the Graduate School in Partial Fulfillment of the Requirements for the Degree of Master of Information Science of Egerton University

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DECLARATION AND RECOMMENDATION

Declaration

I declare that this thesis is my original work and has never been presented for any academic award to this university or in any other institution of higher learning.

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DEDICATION

This thesis is dedicated to my mother, Pauline Nyangige, who consistently reminded me of the need to finish my study; My wife, Judy Jepkosgei and, my children: Brian Mwita, Biltrevor Meremo and Natasha Robi for their patience as they waited to see me realize this dream.

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ABSTRACT

Tobacco production has continued to pose serious dangers to tobacco farmers especially in developing countries. Tobacco farming, carried out over five decades in Kuria West Sub - County, Migori County, Kenya has had a toll on the health of tobacco farmers. Previous studies have shown that tobacco production activities continue to expose tobacco farmers to health risks. The current study sought to establish access to and use of tobacco production health hazards information by tobacco farmers in Kuria West Sub-County, Migori County, Kenya. The objectives of the study were: to determine the awareness of tobacco farmers in Kuria West Sub-County about tobacco production health hazards, to establish sources of information from which tobacco access information on tobacco production health hazards, to determine the information tobacco farmers access on health hazards associated with tobacco production in Kuria West Sub-County, Kenya and assess the use of information about tobacco production health hazards among tobacco farmers in Kuria West Sub-County, Kenya. The study is significant in the development of policies that help in the management of tobacco production health hazards information among the stakeholders. Journal of Documentation: vol, 55 Iss. 3/ Emerald Insight, n.d. focuses on how get to the needy users. The study adopted descriptive research design and employed qualitative and quantitative techniques in the data collection. The data was collected from a sample size of 100 tobacco farmers and 41 key informants. Purposive and simple random sampling techniques were used in the selection of four wards and identification of the respondent for the study respectively. The interview schedule and questionnaire were used to collect data from tobacco farmers and key informants respectively. A Software Packages for Social Sciences (SPSS) was used to analyse quantitative data while qualitative data was narrated. Data was presented in descriptive statistics, tables, figures and graphs. The finding of the study demonstrates that tobacco farmers experience disconnects to requisite information on tobacco production health hazards. Based on the findings the study concludes that tobacco farmers become aware and access and use information from informal sources. Tobacco farmers face challenges of access and thus, engage in tobacco farming without necessary information about tobacco production health hazards. The study recommends that there is need for establishment of informational institution that is capable of disseminating information on tobacco production health hazards, in order to guarantee the farmer's safety during tobacco production.

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LIST OF ABBREVIATIONS AND ACRONYMS

ALA:	American Lung Association
BAT:	British American Tobacco
CSR:	Corporate Social Responsibilities
EAT:	East African Tobacco
EPA:	Environmental Protection Agency
FAO:	Food and Agriculture Organization
FCTC:	Framework Convention for Tobacco Control
GAP:	Good Agricultural Practices
GTS:	Green Tobacco Sickness
HRW:	Human Rights Watch
IA:	Information Access
IDRC:	International Development Research Centre
KETOGA:	Kenya Anti-tobacco Growing Association
ILO:	International Labour Organization
NACOSTI:	National Commission for Science, Technology and Innovation
NEWTFA:	Nyanza, Eastern and Western Farmers Association
NGO:	Non-Governmental Organization
RIRC:	Rural Information Resource Centre
SPSS:	Statistical Package for Social Sciences
US:	United States
USDA	United States Department of Agriculture
WHO:	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Tobacco was encountered by Christopher Columbus during his voyage and brought it to Europe (Wipfli & Sammet, 2016). It later spread to countries such as China, Asia, Middle East and many parts of Africa through Europeans and Sailors, Slaves and merchants (Benedict, 2011). The global demand for cigarettes and change of consumer preferences on tobacco types made transnational tobacco manufacturing companies to shift to developing countries such as Malawi and Kenya because of cheap labour and capital cost and for rapid expansion of peasant farming (Prowse, 2013). Prowse also reveals that Malawi is largely one of the African countries that have high dependence on tobacco farming since 1890 to date.

Tobacco farming in Malawi has passed through periodic phases which include: colonial period (1980-1964) under the colonial estate owners, national period (1964-1981) under the political elite, liberalization period (1981-2004) and accelerated globalization (2004 to date) under the contract farming. All these periodical phases were influenced by government institution policies which have increased dependence on tobacco production. The tobacco production only benefits a few Malawians leaving transnational elites to prosper at the expense of local growers (Smith & Lee, 2018). Sneilders (2021) study on Normalisation and Ambivalence: Tobacco in the seventeenth century Dutch Republic reveals that tobacco was regarded as a product for high class people before its consumption was linked to negative effects.

In Kenya, tobacco farming dates back to 1907 when the British American Tobacco Company (BAT) set up a marketing organization in Mombasa for distribution and marketing network throughout East Africa. It is during this period that tobacco health hazards began its effects in East Africa. In 1967 BAT split the East Africa Tobacco (EAT) into three firms with the establishments in Kenya, Uganda and Tanzania (Kweyuh, 1994). BAT Kenya immediately after inception pursued a policy of promoting profitable tobacco production by contracting small-scale farmers. The small-scale farmers were supplied with tobacco production inputs such as pesticides, fertilizers, seeds and equipment such as thermometer and pipes, among others. In Kenya tobacco is grown in Homa-bay, Migori and Kuria in Nyanza region, Thika

in Central region, Meru in Eastern region and in Western region it is grown in Bungoma, Bumula, Malakisi, Sirisia, Busia, Teso and Mount Elgon. Before the introduction of tobacco production in Kuria West Sub-County, food was sufficient through the cultivation of crops such as cassava, sweet potatoes, finger millet, sorghum, etc. and families had enough livestock due to ever green vegetation. Kuria West Sub-County also had good healthy population with no frequency occurrences of diseases to its people. The situation is no longer the same because of tobacco production. The health of the People has continually been affected by the illnesses and diseases associated with tobacco production health hazards.

In a study by Wipfli and Samet (2016), it is reported that in 1964, US Surgeons' General report linked lung cancer to tobacco smoke; and, in 1980 new evidence emerged that second hand smoke caused death and disease in nonsmokers. Tobacco farming in Kuria west sub-county, Migori County, Kenya has been perceived to be high income farming practice since its introduction in the area, despite health hazards associated with the farming. Chacha (2011) says Kuria West tobacco farmers have persisted in growing tobacco since 1969 despite the health hazards. It is for this reason that the need to relook at how tobacco farmers in the area access and use information on tobacco production health hazards was important.

Tobacco growing is often situated in the context with limited knowledge. This constrains the decision space of tobacco farmers (Lencucha *et al*., 2021). The tobacco success narrative revolves considerably on weak information and strong lobby of tobacco interests. WHO (2017) says, the negative effects is not only to the smokers and those around them but also to those involved in tobacco production. The known reality of the dangers of tobacco made manufacturing companies to initiate use of corporate social responsibility (CSR) in order to improve their public image, advance their political objectives, and thwart or undermine tobacco control policies (McDaniel *et al*., 2016). CSR is used to counter the increased access to and use of relevant information on tobacco production health hazards.

Individual tobacco companies had sought to compile information that cause doubt on smoking-cancer connection. Creating scientific uncertainty, allowed the tobacco companies to attribute the very risk imposed by their products to individuals rather than to the manufacturing companies. These play games by tobacco manufacturing companies about scientific knowledge of the harmful effects and disinformation has kept them in the business at the expense of tobacco producers and consumers. The Governments worldwide

ambivalence and delay in taking action to reduce smoking has sabotaged or compromised the efforts to avail necessary tobacco health hazards information for use to tobacco farmers. The political leaders view tobacco production as a means of generating employment, income, foreign exchange and other monetary contributing factors with disregard to tobacco damage that outweighs these benefits. Tobacco control efforts first came in the year 1990s when documents of the tobacco industry began to be made public for the first time by the company insiders. The insiders leaked the documents which proved that tobacco companies had long known the grave dangers of smoking and did nothing about it (Glantz *et al*., 1996). The documents also revealed decades of deceits including the industry manipulation and often covert efforts to undermine tobacco activities across the world (Lee *et al*., 2004).

This revelation resulted into Minnesota Consent Agreement (MCA) of litigation against the tobacco industry by the state of Blue Cross and Blue Shield to recover health care cost incurred because of tobacco related diseases. Under the MCA, British American Tobacco (BAT) was obliged to manage tobacco industry internal documents and provide public access to the Guildford depository for all their collections. Unfortunately, only 3-5 percent of their collections are accessed onsite. This access approach is inconvenient for UK residents and prohibitive for those living outside the country, notably researchers from the developing world (Lee *et al*., 2004). BAT's access condition which states that visits to depository must be booked in advance on a weekly basis, also has a disadvantage of having its approval delayed for 5 months and; inside the depository a visitor's use a database to search over 43000 files which contains hundreds of pages (Lee *et al*., 2004). The BAT database is indexed up to the file level; this prompts a page- to- page manual search that makes it difficult to identify subjects for individual documents. Request for photocopy of documents take a year to be processed.

These conditions of access to BAT collections are serious hindrances for access to and use of information on tobacco production health hazards. Tobacco farmers in Kuria west sub-county are not exceptional to other tobacco farmers in developing countries. The farmers are exposed to tobacco production hazards. These hazards include: water pollution through siltation of water insoluble fertilizers and pesticides such as Orthine, Lannate used in nurseries and, Dieldrin applied on tobacco plants pose serious poisoning (Kweyuh, 1994). Tobacco production health hazards cause illness such as stomach ailments, skin irritations, miscarriage among pregnant mothers and respiratory infections, among others. All these health hazards

can be avoided or mitigated with access and use of right information that will enable farmers to produce tobacco healthily and maximize profits. Countries such as USA and Britain for example put measures in place to protect the producers of tobacco against health hazards.

The practice of dissemination of health hazards information and protection of farmers from tobacco manufacturing companies is generally not practiced in developing countries such as Kenya. This has generally led to exploitation of farmers by multi-national tobacco manufacturing companies. Access to and use of repackaged information on the dangers associated with tobacco farming would lead to more productive and profitable farming for stakeholders in developing counties. According to Mugwisi (2015) the repackaging could involve translating basic information including precautionary measures into local languages and be made available to farmers. The author further added that this could be done through reputable informational sources such as local radio and television stations. Achieving this requires a multi-stakeholder industry approach with government playing a central role in ensuring that the right legislation, policies, frameworks and effective communication channels, that ensure tobacco farmers are equipped with information pertinent to tobacco health hazards.

WHO Africa (2022) observes that there should be a programme to help farmers' transition to producing more sustainable crop and lead healthier lives. Without adequate information on the dangers of tobacco production tobacco farmers will not shift to alternative crop farming easily because of the higher income from tobacco. It is until when tobacco farmers are trained and equipped with detailed information on the dangers that tobacco exposes them to, that they would then make informed decisions on the transition. Clark *et al.* (2020) say that despite the shifts, tobacco remains an unscheduled crop in Kenya because the Government does not monitor or support tobacco production. This leaves the tobacco farmers poor and in a devastating situation than before due to tobacco production health hazards. To avoid these devastating situations, the government and the tobacco control agencies should set up information organization centres such as, Rural Information resource centre and, elaborate agricultural extension services through which tobacco farmers can be facilitated with requisite information to make their farming accessible. The absence of these institutions would make tobacco farmers continue to experience the challenges of information access such as lack of authoritative sources of information and lack of protective support.

1.2 Statement of the Problem

Tobacco farmers have continued to produce tobacco in spite of the health hazards associated with the production. Health hazards emanate from chemical applications, green tobacco sickness, dusts, second hand tobacco smoke, and heat, among others. The hazards have been known for causing diseases such as cancer, stomach ailments, miscarriage among pregnant mothers etc. These revelations of negative effects have made stakeholders such as World Health Organization (WHO), Kenya's National Agency for the Campaign Against Drug Abuse (NACADA) put in measures to discourage the public from usage of tobacco products. For example, a ban of cigarettes promotional activities, increase of taxes on tobacco products, compelling tobacco manufacturing companies to put caution on their tobacco product packages among others. Past studies conducted focused on tobacco production health hazards on human health, environmental health and social-economic. Among these studies none has dealt with access to and use of information on tobacco production health hazards despite the increase of health hazards exposure by day. This study therefore, fills this knowledge gap by examining the access to and use of tobacco production health hazards information among tobacco farmers in Kuria West Sub-county, Migori County, Kenya to establish their availability or otherwise.

1.3. Objectives of the Study

The overall objective of this study was to assess access to and use of information about tobacco production health hazards by tobacco farmers in Kuria West Sub-county. While the specific objectives include;

i) To find out awareness of tobacco farmers in Kuria West Sub-county about tobacco production health hazards information.
ii) To establish sources of information tobacco farmers in Kuria West access and use about tobacco production health hazards information.
iii) To determine the information tobacco farmers access on tobacco production health hazards in Kuria West Sub-County, Kenya
iv) To assess the use of information about tobacco production health hazards among tobacco farmers in Kuria West Sub-County, Kenya.

1.5 Research Questions

i) Are tobacco farmers in Kuria west sub-county aware of tobacco production health hazards information?

ii) Which sources of information do tobacco farmers in Kuria West Sub-County access for tobacco production health hazards information?
iii) What information on tobacco production health hazards is accessed by tobacco farmers in Kuria west sub-county?
iv) Do tobacco farmers in Kuria West Sub-County use information on tobacco production health hazards?

1.6 Significance of the Study

The finding of this study will be significant in developing policies that would help in the management of tobacco production health hazards, creating need for information seeking and in providing a link between information access and use and tobacco health hazards reduction. Access and use of information on tobacco production health hazards will help stakeholders such as Governments, tobacco control advocacy to develop sustainable policies and strategies on access to and use of information on tobacco production health hazards. The finding will also persuade tobacco farmers develop need to demand for relevant information that will help in the management of a variety of tobacco production health hazards that they are exposed to. This will help in reducing exposure by cautiously dealing with tobacco health hazards, The findings will also inform on policy and legislation formulation to improve dissemination of information at the community level, a sense of information sharing would be recognized, at the level of tobacco control groups there would be a focus on tobacco control measures from farming point of view and at the researchers level there will be active participation in exploring more on information access and use among others. The findings will be published in order to be known to the stakeholders.

1.7 Scope of the Study

The study was limited to tobacco farmers in Kuria west sub-county of the four administrative wards in Kuria West Sub-County. These wards were Bukira central/Ikerege, Masaba, Komasoko/Nyamosense, and Tagare/ Getong'anya. The study's main concern was to find out the awareness of tobacco production health hazards, establish sources of information, determine the nature and level of information accessed and used on tobacco production health hazards during tobacco production among tobacco farmers. The study paid little attention to information about nurturing tobacco plant to produce higher yield, land use, environmental issues and economic aspects of tobacco production. The researcher used data collected from tobacco farmers of the four wards and key informants.

1.8. Limitations of the Study

The identified limitations to the study include; illiteracy, language barrier and translation. Some tobacco farmers were faced with difficulties in understanding English language as a communication medium. To mitigate this challenge, the researcher translated the interview guide from English language to the local language (Gikuria language) to enable smooth running of interview conversation. The translation at some point did not reflect the direct meaning because some words in English language did not have their equivalent word in meaning for Gikuria language. To mitigate this challenge the researcher clarified as much as possible on issues that were not clear to respondents in order to yield quality data. Another challenge that was experienced in this study was time consuming in locating tobacco farmers for a face- to- face interview. This was because the researcher did not have their contact address to book for an interview session. The researcher mitigated this challenge by using an area farmer representative who facilitated ease access to these farmers. It was assumed that the selected sample reflected the entire tobacco farmers because they are all subjected to small scale contracting farming by tobacco processing and or manufacturing companies.

1.9 Definition of Operational Terms

Access is the ability of tobacco farmers in Kuria west sub-county to get and use the available information about tobacco production health hazards.

Awareness is an understanding of tobacco farmers in Kuria West about the existence health hazards in tobacco farming.

Hazard is a circumstance that may cause an adverse outcome or raise the probability of being subjected to risk or danger among Kuria farmers in Kuria West.

Health hazard is any organism or chemical substances (pesticides, herbicides and variety of fertilizers applications) that during interaction or otherwise cause injury or illness to Kuria West tobacco farmers depending on the condition of circumstances available

Illiteracy is the state of a person not being able to recognize an information need and the inability to locate evaluate and use independently the needed information effectively. Illiteracy can also imply inability to read and write in any language

Information access is Kuria West tobacco farmers' ability to identify, obtain and make use of the information focusing on the moral dilemmas and ethical conflict that arises during interactions.

Information behavior is a response to an information need. An information seeker may be involved in various activities to identifying his/her own information needs and use such information to solve a certain conflict problem. In this study the meaning will be employed.

Information Use is putting a specific piece of information to its purpose. This is only possible after developing understanding of a particular phenomenon and knows what to do and how to do it. This study will adopt the meaning as it is.

Tobacco farmer is a peasant farmer Kuria west sub-county who is contracted by tobacco manufacturing companies to produce tobacco leaves and sell to them after curing.

Tobacco production is the process that is involved by a tobacco farmer in Kuria West sub-County from clearing for nursery stage to cured tobacco leafs in order to produce tobacco product.

Tobacco production health hazards are health risks that emanate from tobacco production. In this study it refers to illness and injuries that tobacco production cause and which affect Kuria West tobacco farmers and the community at large.

Use is a skillful utilization of the available tobacco production health hazards information by tobacco farmers in Kuria West Sub-County in order to be safe during tobacco production.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter provides a review of the available literature on the awareness of tobacco production health hazards, types of information sources, the nature and level information accessed and used, the specific health hazards associated with tobacco production, the theoretical framework and lastly the conceptual frame work.

2.2 Tobacco Production Health Hazards Awareness

Awareness is a state of being conscious that something exists or having an understanding of a situation. One has to be aware of an existing problem before initiating demand for information that he/she can use to solve it or make an informed decision about it. Yang *et al*. (2010) study on awareness of tobacco related health hazards, opine that awareness of the health hazards of tobacco is still poor, hence need for improved means of information communication and more warning labels on cigarette packaging. Although this will increase public awareness of tobacco hazards among rural residents and people with less information, use of relevant information among tobacco farmers is very important. The authors also found that most adults in china know that smoking causes serious diseases, but many people know little about specific health hazards of tobacco use. Hence, the depth of knowledge is inadequate as opposed to developed countries such as Canada and Australia. Yang *et al.* (2010) further revealed that awareness rate on second hand smoke among Chinese doctors are highest but lower than the awareness rate of the general public in Canada.

These findings show that access to and use of information on tobacco health hazards is higher in developed countries than developing countries. According to Jackson and Rosenberg (2010) study on preventing heat- related illness among agricultural workers, observed that awareness needs to be done through planned training session, periodic alerts, casual conversation, and structural adjustments among others. The authors further say that training should be based on sound health communication principles, conducted in the primary language that is suitable for local conditions, with a joint responsibility of workers and managers for preventing tobacco production health hazards such as heat-related illnesses.

In a study on an overview of the tobacco problem in India by Mishara *et al.* (2012) observed that tobacco is a global epidemic that can be resolved by becoming aware of the devastating

effects of tobacco, learning about the proven effective control measures such as statutory health warning on all packages and advertisement of cigarette. This shows a focus on active smoking but not on tobacco production tobacco farmers' awareness. According to Davis *et al*. (2007) study on a global assessment of tobacco harm, remedies and controversies say that tobacco related knowledge and attitude on health hazards are recognized by the people in industrialized countries. The fact that smoking kills and can lead to health consequences has not been understood by many. The authors further argue that dissemination of best practices adoption and implementation of recommended policies are scanty, evidence and action do not go hand in hand.

2.2.1 Awareness of Agrochemical Applications Health Hazards

According to the research on pesticide use, Damalas *et al*. (2006) show that farmers are aware that health hazards from pesticide use exist but still don't practice safety during pesticide applications. The study further concludes on the need to have proper training for farmers on pesticide handling and education on the hazards of pesticide exposure to reduce the health hazards farmers' face. From this study, there is no clarity on tobacco farmer's access and use of tobacco hazards information. In a study about Risk assessment on pesticide exposure on health of Pakistani tobacco farmers by Khan *et al.* (2010) also found that majority of tobacco farmers in Pakistani had knowledge about the names of the applied pesticides and the detrimental health effects, but they are not aware of the recommended safety precautions regarding pesticide handling and the information about their toxicity class and hazardous health effects. This makes use of tobacco production health hazards information critical. Arcury and quandt (2006) study on health and social impacts of tobacco production say that tobacco farmers in developing countries are generally poor and have little information on how tobacco production affect them, their families and their communities. The study shows the need to find out how farmers access and use information on pesticide. According to Tambe *et al.* (2019) study on pesticide usage and occupational hazards among farmers working in small-scale tomato farms in Cameroon, use of required personal protection equipment significantly reduce exposure to occupational hazards. The authors further argue that increasing farmers' awareness on good practices for pesticide application and strengthening of food safety control services and measures to prevent and protect the public health against pesticides should be emphasized.

2.2.2 Awareness of Green Tobacco Sickness (GTS) as a Health Hazards

Green tobacco sickness (GTS) is the acute poisoning caused by absorption of nicotine in tobacco by farm workers and farmers when they get into contact with wet green tobacco leave. According to the study on the green hazards; a meta-analysis of green tobacco sickness by Achalli *et al*. (2012) observed that it is important to educate tobacco workers and their employers about GTS in order to reduce its incidence. The authors further opine that an international level awareness campaign has to be taken up and more stringent workers safety regulation formulated. In support Tambe *et al.* (2019) say that being educated increases access to information. Their study also indicated that training and communication materials enables a better awareness of various workplace hazards and ensure a better understanding of safe work procedures among other issues.

2.3 Possible Information Sources

Tobacco farmers can access relevant information from a variety of information sources. These sources could be an expert person for example an agricultural extension officer, health officer or health activist or advocate, an item or an institution, from which information comes, arises or is obtained from. Sources of information that this study focused on are; rural library, rural information centre, mass media and agricultural extension services. Information as a resource enables an individual to change his/her opinion about the current state of the real world.

2.3.1 Rural Library

Tobacco farmers need information about tobacco production health hazards. A rural library as an institution is charged with the responsibility of identifying, selecting, acquiring, processing, storing, retrieving and disseminating information. This is a suitable organization to serve the interests of tobacco farmers. Information access as an interaction means that tobacco farmers can be empowered in order to access and put to use relevant information that safeguards their health and communities against the ravages that are otherwise caused by tobacco farming. Islam and Ahmed (2012) study on rural library services: a qualitative assessment of information provision in selected rural communities in Northern district of Bangladesh, found that people in the rural areas were not availed with information that concerns them in order to manage their social obligations or become responsible for their lives and better informed citizens. A local library should be an entity to serve the tobacco farmers with relevant information on tobacco production health hazards. The library plays a

big role in solving problems through the provision of relevant information to farmers. Although a library is considered to serve educated users or learners in formal sectors, rural library contains collections brought in by government, non-governmental organizations and those produced in the area. Islam and Ahmed (2012) added that library plays an important role of dissemination agricultural information. World Health Organization (2019) report on the global tobacco epidemic 2019: offer help to quit tobacco use, observes that more countries have implemented tobacco control policies, but has failed to address the genesis of tobacco products from the farming point of view. The farmer of tobacco has not been considered in the fight, yet they are most exposed.

Omogor's (2013) study on channels of information acquisition and dissemination of information among rural dwellers concluded that each community should be able to develop the type of library services that suits and enhances its social goals and development objectives. The study showed that a channel of information dissemination may be appropriate to a certain group on information seekers, it is therefore important to repackage information in a medium that is easily understood by a targeted group of people. In support Ugan (2007) research on obstacles of information access and use in developing countries, observed that the role of libraries has not always been made clear to information seekers, particularly in developing countries. The author further argues that library services have remained in the domain of urban dwellers targeting learners and researchers with little regard to rural farmers. In the absence of such an institution, tobacco farmers may fail to get prerequisite information on tobacco health hazards and its smooth flow.

2.3.2 Rural Information Resource Centre (RIRC)

Rural Information Resource Centre (RIRC) is an established Centre with the responsibility of acquiring, processing, storing and disseminating information needed by the community it serves. RIRC emphasize on taking the information to the people who need it most. RIRC also does paper clipping and arranging for discussion meetings, seminars and workshop covering latest ideas, topics and experience for rural development. In a study by Islam (2009) titled the community development library in Bangladesh, results revealed that RIRCs in Bangladesh are used to enable sharing of ideas and views among workers. This can as well help people in the rural to equip themselves with the modern trends and practices. The author further found that RIRC arranges for displays and exhibitions about things that affect them by means of using various formats such as books, training manuals, posters, videos, etc. and collects

information pertinent to local areas and make it known to them through notice boards. In areas where such important facility does not exist, rural farmers such as tobacco farmers stand to lose in terms of necessary information that could help them solve their problems in relation to tobacco production health hazards.

According to Misiko and Halm (2016) small holders need adequate agricultural information that is accessible, relevant and well communicated. Ndinde and Kadodo (2014) say that community based information centers are information dissemination points for survival and growth of the community. The authors further concluded that survival information is related to health, agriculture, house income, legal protection etc that can be communicated among the people of communities through the centers. While Mwantimwa (2017) study indicated that although there are positive and promising indicators associated with the establishment of rural resource centers in Bunda district in Tanzania, the information available, accessed and utilized was too insufficient to bring about significant development. In areas where such important facility does not exist, rural farmers such as tobacco farmers in Kuria West Sub-County stand to lose in terms of necessary information that could help them solve their problems in relation to tobacco production health hazards. It is therefore, paramount to establish rural centres where relevant tobacco production health hazards information can be acquired, processed and disseminated to tobacco farmers in the rural areas.

2.3.3 Mass Media

Tobacco farmers stand to benefit when information on tobacco production is transmitted or broadcasted immediately through the mass media. This is because it captures the widest possible audience. The transmission can be through television, internet or radio broadcast. In the article about problems and prospects of agricultural information sources utilization by small scale farmers; a case from Nassarawa state in Nigeria by Bello and Obinne (2012) found that interpersonal channel and mass media communication strategies are applicable sources of disseminating information to farmers. They further say that it is unlikely to eradicate inaccessibility to information utilization among farming communities in the absence of education, material resources and technical skills. All these can be achieved if access to and use of information is made possible.

a) Television Broadcast

Television broadcast is a medium through which information is transmitted for reception through a television set with the right signal channel. When this happens any one can receive information and possibly share it out with a tobacco farmer who did not own the television set or who did not tune to the signal channel. The television channel for information access is not commonly used by the rural farmers in the developing world because of the cost involved in procuring a television set, an aerial mask and a source of electricity power. The fact that there are agricultural programme presented through television broadcast, they are mainly watched by people who are living in urban set up.

In a study on Information access in Africa, Wresch (1998) says that in Kenya and Bangladesh newspapers are a more significant sources of information than television and people who own a television set watch American reruns. The findings complicate matters of information access and use for tobacco farmers in Kenya because newspapers are hardly found in rural set-ups and when found the cost is not affordable to farmers. Tobacco farmers can only access information on tobacco production health hazards if there are arranged progammes on television broadcast station to educate farmers on the hazards.

b) Internet

Internet is a global computer network with an aim of providing a variety of information and communication facilities using standardized communication protocol. Internet services have become an important tool for facilitating information access. These services are not commonly used in the rural areas of developing countries because of poor electricity and network connectivity and economic difficulties.

Wresch (1998) study about Information access in Africa, says that what is found in the standard information age is irony; the richer an African nation was, the lower its internet costs. The poorer a nation, the more it has to pay for information. Tobacco farmers can access information anytime and anywhere through their personal electronic devices. Tobacco farmers in developing countries are the most disadvantaged in terms of information access and use due to poor internet and electricity connectivity and high cost tariffs. According to a study on Influences of social networking site and user access method, Heinrichs *et al*. (2011) show that social networking sites can be used to create content, distribute materials, share ideas, express opinions and use information and knowledge through the electronic devices.

Although these findings are true, tobacco farmers may lack the required technical skill to use their hands electronic devices. Information access and use may also be affected by lack of awareness, inaccessibility, poverty, ignorance among others. The study on promoting the use of information and communication technologies (ICTs) for agricultural transformation in Sub-Saharan Africa, shows that information and Communication Technology (ICT) can help a small scale farmer to get relevant information regarding agro-input, crop production technologies, agro-processing and the management of farm enterprise (Ajani, 2014). Tobacco farmers in the rural areas can use their handset devices to search and access information pertinent to them although this is at a minimal in developing countries. This would only be possible if they are skilled on the usage and facilitated through electricity and internet connectivity.

c) Radio Broadcast

Radio broadcasting is a medium of mass communication capable of reaching all audience regardless of age, gender, class or technological knowhow. This is because of low cost, portability ease and easy access. Tobacco farmers can access tobacco production health hazards information and educate farmers on the best way of dealing with illness and injuries through a radio station programme. According to Smith *et al*. (2011) study on Effectiveness of the Radio as a health information source,; indicated that to accommodate the gap between actual and preferred methods of critical health information acquisition, health educators and professionals should often utilize a multifaceted approach when producing health education campaigns. The authors further found that radio broadcast increases knowledge levels and individual intention to positively modify health behaviour. The study further shows that to successfully utilize a theory to incite behaviour change, health professionals must understand the characteristics of their audience and how that audience can be most effectively reached and influenced. Scheduled programme on tobacco health hazards can reach tobacco farmers through radio broadcast because a farmer can easily listen to through a radio set or a mobile cell phone radio while working. Misiko and Halm (2016) say radio programme can be enhanced when content is provided by research and extension officers. The authors further concluded that radio broadcasts could be made interactive and farmers made aware of radio programmes before they are aired.

According to a study on Trusted information sources used during and after supper storm sandy, Burger *et al.* (2013) indicated that during the time of the problem, people rely on a

functioning source of information and radio still remains one of the key sources of information for all ages. Burger *et al.* (2013) further say that sources of information used and the sources available depended upon the kind of information required. Tobacco farmers can make use of a local radio broadcast station that uses a local language that is understood by all regardless of academic standing. According to Lwoga *et al.* (2011) study on Access and use of agricultural information and knowledge in Tanzania show that large number of farmers in the rural area use radio to access information on farming systems as an appropriate channel for its oral nature, low cost and its independence of electricity. A part from radio and all phones, advanced technologies (internet and e-mail) and printed materials were used at a low rate despite their existence in the communities (Lwoga *et al.,* 2011). In order to increase the use of information through print there is need for programmes that would sensitize tobacco farmers on the importance of print materials as a reliable source of information.

2.3.4 Agricultural Extension Services

Agricultural programmes are designed to provide timely information and education to farmers on a wide range of information for agricultural products, rural development, enhance awareness of relevant information sources and strengthen the capacity to produce, acquire, exchange and utilize information concerning their agricultural activities. In a study on mapping and auditing agricultural indigenous knowledge in Kenya by Kiplag'at and Rotich (2012) found that improved farming methods among the farmers is lacking due to inadequate extension services and as result farmers use their indigenous methods that may not be effective in the modern farming.

The study further shows that tobacco farmers can grow tobacco sustainably by utilizing modern farming knowledge. The major sources of information for farmers were predominantly local (neighbours, friends and family) followed by public extension services (Lwoga *et al.,* 2011). Lukuyu *et al.* (2012) study on disseminating improved practices: are volunteer farmer effective? Show that farmer trainer can play critical role in mobilizing and training fellow farmers, hosting demonstration plots among others. Farmer trainer approach has the potential to disseminate technologies to farmers in a cost effective way that is long lasting because of homegrown confidence. There is need for farmer trainer to be embraced by the stake holders such as Governments, NGOs and private sectors (Lukuyu *et al.,* 2012). The farmer trainer equipped with necessary skills for disseminating information will easily win the support of fellow farmers because of the sense of belonging. In support Misiko and Halm

(2016) added that the farmers prefer local dialects for accessing agricultural information despite farmers being English literate. The authors further say scientific knowledge would not be understood unless translated into simple designs in English or other language.

2.4 Type of Information Accessed by Tobacco Farmers

Information access is the ability of an individual or group of individuals to identify process, retrieve and use it in order to solve the problem at hand. Access to the right information empowers one to be able to make the right decisions for problem solving. Some of the information received may be unplanned or planned. Some of the information put forward for access and use by tobacco farmers include; information on pesticide container labels, tobacco companies' corporate social responsibility information, tobacco control and legislation information, information communicated about health hazards and health policy regarding tobacco production.

2.4.1 Access and Use of Pesticide Containers Label Information

The labels glued on the containers of pesticide carry information for pesticide products and their usage. Information on the labels usually explains what the pesticide is to be used for, how it should be used, ratio of mix, rate of application and precaution among others.

According to Damalas and khan (2016) study on farmer's attitudes towards pesticide labels: implications for personal and environmental safety, found that farmers do not read pesticides labels in detail or pay attention to information found on the labels as they should. The essential information about pesticide handling and safety issues found on the pesticide labels has to be effectively communicated to the farmers using label format which facilitate notice ability, legibility and comprehension. In support Damalas *et al*. (2006) indicated that most of the information on pesticide labels tobacco farmers finds it hard to read and understand the message. They only pay attention to the directions for use and most primarily rely on pesticide salesman's information. The information written on the labels is not easy to understand because some of the words used are scientific. Scientific language is well understood by the line professional. The expert is better placed in the facilitation of information on the use and caution against the dangers and also on the mitigation measures.

2.4.2 Tobacco Company's Corporate Social Responsibility Information

Corporate social responsibility is an approach that an organization uses to sustain its economic, social and other activities with an aim to maintain industry relevancy to stakeholders. WHO (2002) used the longest historical relationships between the tobacco farmers and the manufacturing companies in the United States to obtain information that helped in the drafting of framework convention to tobacco control (FCTC). This information helps to inform tobacco farmers on possible end-game strategies for tobacco control; advocates in developing countries and provision of evidence of conflict between tobacco manufacturers and tobacco farmers. Jones et al. (2008) study on tobacco farmers and tobacco manufacturers: implication for tobacco control in developing countries found that the tobacco manufacturing companies have developed a variety of strategies to deny tobacco health hazards evidence information, promote social activities, attempt to prevent national government from taking over tobacco control measures and handling litigation.

Uganda Health Communication Alliance (2021) found that Uganda tobacco industry use their allies and creation of partnership with NGOs and Government agencies to push their agenda. They hide behind corporate social responsibility to polish its image and promote its products. Allowing tobacco industry sponsor NGOs and government programs through their corporate social responsibility activities would not be easy to control the negative effects of tobacco products. The misspoken language is also meant to hide the truth and create confusion about the health hazards of tobacco in general. According to McDaniel and Malone (2012) study on British American Tobacco's partnership with Earth watch Europe and its applications for public health, show that BAT sought a partnership with Earth Watch Europe to gain a global ally that could provide entry into the larger Non-governmental organizations (NGOs) Community. In support of this Misura *et al*. (2018) says tobacco industry invest significantly on CSR because of public pressure and in the process increase brand equity.

According to Paula *et al*. (2022) tobacco companies use CSR strategies to join the 2030 agenda for sustainable development which was adapted by 193 UN member states "*transforming our world: the 2030 Agenda for sustainable development*" they employ the strategic to reduce the perception of negative consequences. Engaging in CSR projects is a form of indirect marketing of tobacco companies' products and obtains subsequent approval. Tobacco companies are keen in partnering with a diverse range of charitable international projects such environment, domestic violence, poverty alleviation, education, hospitals and cultural events with an aim of winning tobacco farming community support. Tobacco

farming health hazards can be managed when tobacco manufacturing companies lack political backing from stakeholders such as the government and tobacco farmers, among others. This is possible when information about tobacco production health hazards is made accessible to tobacco farmers. In a research on public enemy no. 1: Tobacco industry funding for the AIDS response, Smith *et al*. (2016) found that Transnational Tobacco Company such as Philip Morris and BAT uses various charitable causes to subvert tobacco control efforts and influence public health policy. In Latin America and sub-Saharan Africa, Philip Morris and BAT champion the AIDS response in order to delegitimize effort to develop the WHO's FCTC. Tobacco Companies tries to legitimize their tobacco business by working with health organizations. BAT sponsors Aids Programs in Kenya, Nigeria and South Africa (Smith *et al*., 2016). By funding AIDS programs is a way to win support of the stake holders. In a study on tobacco contract farming and agrarian change in Zimbabwe, tobacco farming in Zimbabwe is mainly on contracted small scale, a practice that is employed by tobacco manufacturing company in the developing countries to win the support of tobacco farmers (Scoones *et al.,* 2017).

Small-scale contracting approach helps BAT to dictate their term on peasant farmers who grow tobacco at its mercy. According to WHO (2003) study on Tobacco industry and corporate responsibility… an inherent contradiction, BAT focus their corporate social responsibility (CSR) on activities such as building schools, hospitals and often forms of grants and scholarship. These partnerships help BAT to develop tobacco growing activities as an option towards alleviating poverty in line with the government. For example, in a study about tobacco industry and corporate responsibility… an inherent contradiction, BAT entered partnership with a community in Kerio trade winds projects to lobby and win the support of Kenya government through powerful political figure who hailed from Kerio Valley then, even when the region does not grow tobacco (WHO, 2003). BAT (K) Company uses its field officers and corporate social responsibility to provide information necessary to produce high yield tobacco and win the support of governments and tobacco farmers respectively.

2.4.3 Tobacco Control and Legislation Information

Tobacco farmers should be provided with information or made to access legal information concerning tobacco farming. Legal information would make them to be able to make their own decision as far as tobacco production health hazards are concerned. Tobacco manufacturing companies and distributers contribute very huge amount of money to fund

election politics to lobby for their interests. In a research about tobacco money in California politics: campaign contributions and lobbying expenditures of tobacco interests Report, Tobacco interests lobbied 14 different bills, including legislation to close loopholes in the California smoke free workplace law, increased penalties for violations of the Stake Act and prohibit smoking at all acute care hospitals (American Lung Association, 2015). Use of children labour in tobacco fields contravenes the Children's Act which is stipulated in section 10 of the Constitution of Kenya, which protect every child from economic exploitation and any work that is likely to be hazardous or to interfere with the child's education, or be harmful to his health or physical, mental, spiritual, moral or social development (Kenya Republic, 2010).

Legislations and Government policies can be used to address the right to information by tobacco farmers and farm workers to enhance their basic right as enshrined in the Kenyan Constitution 2010 chapter 4: part 2; section 35 (1). A study on the emerging human right to tobacco control, show that at the environmental level, health is dependent upon a stable ecosystem, clean water and air and climate that can sustain human life (Drester & Marks, 2006). Tobacco farming harms these levels and the damages are not limited to tobacco farmers. According to Abila (2006) in a study on tobacco in Kuria district Kenya: status, impact and policy issues, says that the Kenyan Tobacco Control Bill 2006 is inadequate to address the protection of rights, health and environment of tobacco farmers. Tobacco farmers will not be protected unless access and use of information on tobacco is made visible through legislation and law.

2.4.4 Information Communication on Tobacco Production Health Hazards

This is the dissemination of content/messages of tobacco production health hazards to tobacco farmers in a manner that they are capable of understanding the whole scenario. Human Rights Watch (2014) study on hazardous child labour in United States tobacco farming found that tobacco employers did not provide health education, safety training or personal protective equipment to tobacco farmworkers to minimize their exposure to nicotine from tobacco leaves or pesticides sprayed on the plants. Tobacco health hazards cannot be addressed from the individualistic point of view but from a representational organization such as the State, NGOs and Church with the ability to mobilize resources and organize forums and meetings in which the tobacco farming community can be told, trained, and educated on the hazards of tobacco farming. According to an article on activism, arena and accounts in

conflicts over tobacco control, Thomas *et al*. (2015), found that activism agencies have not put efforts on how evidential information on tobacco hazards can reach the tobacco farmers and farmworkers. The findings of Human Right Watch (2014); Thomas *et al*. (2015), show that tobacco farmers can access and use reliable information on the tobacco health hazards when institutions and professionals are involved. Oladele (2011) in a study about effects of information communication technology… notes that farmers require information inter alia on supply of inputs, new technology, early warning systems (drought, pests, and diseases), and their competitors. According to Schmitt *et al.* (2007) research on health risks in tobacco farm workers observe the importance to educate tobacco farm workers, farmers, and health care providers on Green tobacco sickness (GTS) and other tobacco farming health risks.

Abila (2006) established that there's no institution in Kenya with the overall responsibility to represent farmers' interests since institutions such as Nyanza, Eastern and Western Tobacco Farmers Association (NEWTFA), Kenya anti-tobacco growing association (KETOGA) meant to play a representational role are funded and sponsored by tobacco companies. According to Nguyen *et al*. (2009) in a study on impact of tobacco growing on the livelihood and health of tobacco farmers and the environment, opines that promotion of awareness about hazards and health effects of tobacco farming would increase public awareness, influence local Government and communities to support policy changes. This will make them take initiatives of exploring alternatives to replace tobacco farming. Tobacco farmers should be engaged in workshop, seminars, conferences, meetings etc where they can interact with scholars, researchers, health professionals among others, in order to be shown proof of the existence of health hazards that emanate from tobacco agriculture and how they can minimize them. Although promotion of awareness of health hazards play a key role in tobacco agriculture, to minimize the hazards purely depends on what information accessed and used in order to minimize or eliminate them during engagement of tobacco production.

2.4.5 Tobacco Farming Information Health Policy

Tobacco farming information policy on health is the set of rules and regulations, formal and informal that directly restricts, encourage or otherwise regulate the creation, use, storage, access and dissemination of information on matters of health about tobacco farming. Kibwage *et al*. (2019) observe that the economic benefits of tobacco farming have been used by tobacco industry to block tobacco control policies. The authors further found that tobacco companies have no occupational safety and health policy. Relevant information access to and

use of information on the compliance levels, tobacco farming can be sustainable. Health is not just an individual issue but requires a social dimension and the impact of policies that affect the health. Hence, need for a clear policy on access and use of information through repackaging for example in a translation into the language mostly understood by farmers.

The information sources about tobacco farming should be a national function because tobacco health hazards rest on its citizens. Hoe *et al.* (2019) says that lack of political commitment, institutional capacity and operational effectiveness of the country contributes to increase of policy implementation fidelity. The effective implementation should provide platform for information exchange and sharing of knowledge, resources and expertise.

Johnson (2000) in a study about tobacco and public policy in USA, says relevant resources for locating information on USA public policy is very clear on tobacco: as an agriculture product, as a focus of legislation, as a public health issue, tobacco regulation and statistical sources. The US Federal Government has assumed the responsibility of making sure that the primary documentation is available to farmers through the network of federal depository libraries which are located throughout the USA, providing free access to a wide variety of Federal Government information in both print and electronic formats and have expert staff available to assist users. Johnson (2000) further shows that numerous federal agencies, primarily those within the department of health and human services are engaged in research on the health hazards on the use of tobacco and on the strategies to reduce or eliminate its use.

Mohamed *et al.* (2018) found that although exist a tobacco control policy in Kenya that aligns well with current global efforts. Implementation is still weak. The success of implementation can be manifested with the present of political will to counter the control efforts interference by tobacco manufacturing companies. For example British American Tobacco (BAT) sees World Health Organization's Framework Convention for Tobacco Control (FCTC) as a threat to its growing markets in developing countries and is determined to derail it, and sabotage it in any possible way it can. It is therefore a fact that tobacco producing companies use world class technology, management know-how and international best practices in areas such as quality, environment, health and safety protection, employment and corporate governance to be able to meet the tobacco farming target.

2.5 Tobacco Production Health Hazards

Health hazards are the injuries and illnesses that the tobacco farmer, tobacco farm worker or any other person may be exposed to during his/her engagement in the tobacco production. In most cases these injuries and illnesses becomes rampant in situations where the requisite information on its management is limited or absent. In a study about one hundred years in the making: the global tobacco epidemic, in 1964 US surgeon general's report linked lung cancer to tobacco smoke and in 1980 a new evidence that second hand smoke caused death and disease in nonsmokers came out (Wipfli & Samet, 2016). This knowledge about the detrimental health effects of tobacco began a tobacco control movement (Ramin, 2006).

Thomson *et al.* (2015) study about activism, arenas and accounts in conflicts over tobacco control say that tobacco control movement sought to de-normalize the production and consumption of a product that previously epitomized progress, sophistication and modernity and to call into question the issue of tobacco governance Some of the health hazards associated with the production of tobacco include; tobacco chemicals applications health hazards, Green Tobacco Sickness, poverty health hazard from peasantry tobacco farming, hunger among others. Access and use of relevant information about tobacco production health hazards through the right source will make farmers be able to handle this menace.

2.5.1 Tobacco Farming and Chemicals Applications as Health hazards

Chemical applications are the agro-chemicals such as pesticides; herbicides, fungicides etc applied on tobacco plant to prevent it from diseases in order to increase tobacco leaves production. The applied agro-chemical in turn affects the heath of tobacco farmers through cause of diseases.

Abila (2006) says that the main concern about tobacco growing and curing includes stomach ailments, skin irritations, abortion by pregnant mothers and respiratory infections among others due to exposure to chemicals and tobacco plant. In the study on Recognition and management of pesticide poisoning, Methomyl (Lannate) spread to the tobacco plant is a poisonous pesticide that is absorbed by inhalation and ingestion and somewhat by the skin penetration (Reigart, & Roberts n.d). This paralyzes the cell by depolarizing the end-plate and respiratory depression combined with pulmonary edema and usually causes death from poisoning. Reigart and Roberts (1999) further says Lannate causes malaise, muscle weakness,

dizziness and sweating as early symptoms. Headache, salivation, nausea, vomiting, abdominal pain and diarrhea are common.

Acephate (Orthene) increases pulmonary secretions coupled with respiratory failure that usually causes death and recovery depends ultimately on generation of new enzyme in all critical tissues. It causes Bronchospasm, Bronchorrhea wheezing, productive cough and pulmonary edema. In a research about pesticide action network, severity of poisoning is signified by loss of consciousness, incontinence, convulsions and respiratory depression (Kegley *et al*., 2014). Arcury and Quandt (2006) also found that respiratory effects occurs to tobacco farmers and workers due to the high levels of tobacco dust they are exposed to during curing, baling or sheeting of dried tobacco leaves. Ochola and Kosura (2007) in an article on tobacco cultivation and possible alternative crops, state that the intensive use of agrochemicals to protect and improve the quality of tobacco have raised tobacco farming health hazards. These studies show that access to and use of agrochemical information by farmers is wanting. Nguyen (2009) says that tobacco farmers had significantly more illness than non-tobacco farmers.

Tobacco farming exposes tobacco farmers to multiplicity of hazard that lead to diseases. This long-term effects of exposure include cancer, problems with learning and cognition and reproductive health issue. The independent information on the status of land environment and health maintenance is lacking. Kutub and Falgunee (2015) in a study on environmental degradation due to tobacco cultivation in Bangladesh show that excessive agro-chemicals such as 1-3 Dichoropropene (1- Aldicard, Chlorpyrifos 3 D or Telone) used by tobacco farmers to increase leave production damages not only the soil, water and biodiversity but also the very health of tobacco farmers. These substances are extremely carcinogenic, affect the nervous system and causes human birth defects as well as genetic damage to human blood and lymph cells, causes respiratory problems, skin and eye irritation and kidney damages. These chemicals also indirectly cause the genetic selection of pesticide-resistant mosquitoes or flies, making the control of diseases such as malaria much more difficult (Campaign for Tobacco Free Kids, 2001 & Farrell, 2007).

2.5.2 Green Tobacco Sickness

Green tobacco sickness (GTS) is the form of nicotine poisoning when wet leaves are in contact with the skin. According to a study on tobacco and poverty, it is argued that that

nicotine from the leaves gets absorbed in the skin and causes nausea, vomiting, dizziness, abdominal cramps, fluctuations in blood pressure and heart rates. Schmitt *et al.* (2007) also agree with WHO (2004).

Lecour *et al.* (2012) study on environment health impacts of tobacco farming, found that GTS is a health risk illness created by certain working conditions such as handling wet tobacco or alcohol consumption while working with tobacco leaf. Human Right Watch (2014) says that children suddenly fell down, acutely ill while working in tobacco plants fields. Most tobacco farmers and farm workers who are mainly children and women do not have or receive information about acute nicotine poisoning and how to prevent it when handling tobacco or when they are at the greatest risk of nicotine poisoning,. Tobacco workers are neither provided with any education or training on how to use pesticide safely or know how to protect them from the exposure (Human Right Watch, 2014). GTS is a tobacco production health risk that can easily be protected when tobacco farmers and farm workers can access requisite information.

2.5.3 Poverty as a Health Hazard from Peasantry Tobacco Farming

Tobacco growing contributes to poverty by harming the environment on which people depend for subsistence. WHO (2004) asserts that tobacco farming increases poverty of individuals and families through lost earnings to illness, higher medical costs and deaths. Money spent on tobacco can have a very high opportunity cost and is money not spent on basic necessity such as food, shelter, education and health care. Nguyen (2009) observes that communities with high percentage or whose main source of the family income depends on tobacco farming tends to earn little and suffer more than the non-tobacco farmers. When women work without protective measures to reduce the harm and breast feed their children without even taking a bath is an evidence to show lack of relevant information. This trend is a commonly witnessed practice among the Kuria West Sub-County tobacco farmers. Ochola and Kosura (2007) say that farmers use their children to cut down the farm cost and this poses higher risks to them than adults because children's nervous and immune systems can be easily damaged leading to a greater risk of cancer.

2.5.4 Hunger as a Health Hazard of Tobacco farming

Many tobacco farmers in Kuria West have replaced traditional food crops with tobacco due to commercial rewards as compared to non- tobacco farmers. This practice has put tobacco

farmers into constrained finances than those growing subsistence crops. Hunger and malnutrition are made worse when families use scarce land for tobacco production rather than for growing food, and contracted small scale tobacco farmers make barely enough money to purchase food for their families. According to WHO (2008) report on the global tobacco epidemic says tobacco plants use more nutrients than many other crops, which lead to further degradation of the soil. Tobacco industry claims that tobacco farming brings high economic income to developing counties. This is not true in fact, much of the benefits go to tobacco companies and the government leaving tobacco farmer with hardly any to sustain himself in terms of food (WHO, 2004).

2.6 Theoretical Framework

The study on access to and use of tobacco production health hazards information was guided by Wilson's (1996) model of information behavior. Wilson's (1996) model is more specific and focuses on the context of information and the person in context, therefore making it more appropriate for this study and different from theories and other models. The model brings out a clear understanding and explanation of the variables in information access and use through the tenets which include; context of information need, activating mechanism, intervening variables, information seeking behavior and information processing and use. The chosen model is an improvement of Wilson's (1981) model of information behavior, which is more general in scope. Wilson's (1996) model of information behavior explains that an individual can only realize a need when in a context. This context can be understood to be a situation or environment in which one operates in. in this study the context of information is tobacco farming which is a health hazard practice and a tobacco farmer in Kuria West Sub-County as the person being exposed to these hazards and who needs to be aware, and provided access to tobacco production health hazards information in order to use and minimize or eliminate tobacco production health hazards that he/she is exposed to during farming.

During this time the mechanism can cause stress, and an individual may develop ways of coping with the stress and takes a risk/reward of searching for information. Risk in this study is when tobacco farmers' awareness, access to, and use of tobacco production health hazards information becomes in vein. Then the tobacco farmer continues to be exposed to tobacco hazards during tobacco production. While reward, is when tobacco farmers got access to right information on tobacco production health hazards and utilize it to safely operate during tobacco farming. When someone decides to look for information, there could be factors

(intervening variables) that could help tobacco farmer get information or distract them from getting information see figure 2.1 below.

Seeking behaviour comes in several forms which include; passive attention, passive search, active search and ongoing search. The different form helps to explain the different approaches to information access and use in the context of tobacco farming. When information accessed to and used is not enough the person in the context goes back and starts the process again until he/she is satisfied with the information. The model explains that the success of a person -in- context of information need majorly depends on intervening variables and information seeking behaviour. Figure 2.1 below is a presentation of the model.

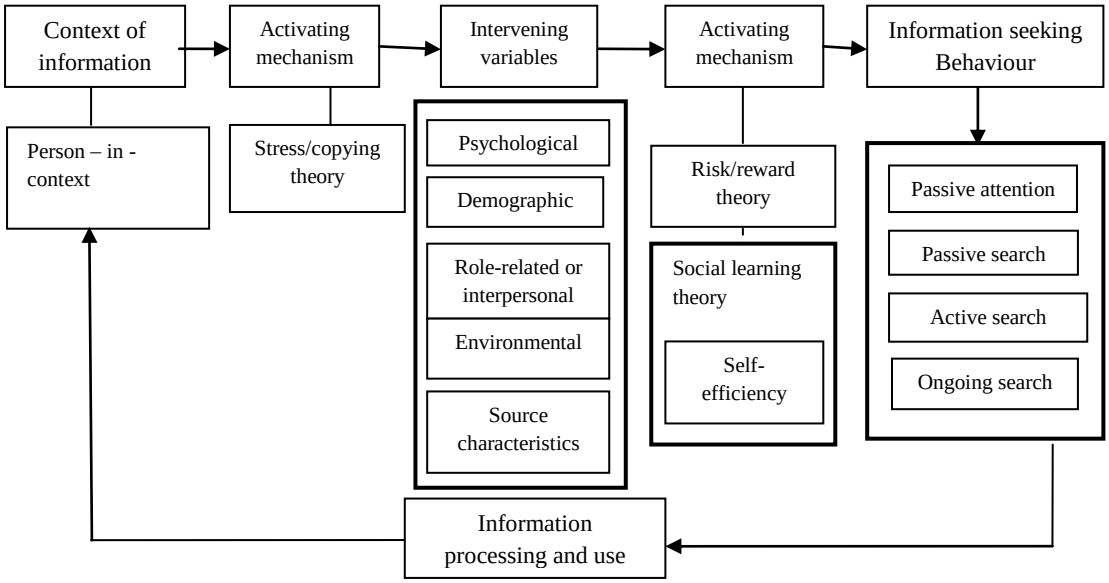


Figure 2.1: ***Wilson's (1996) Model of Information Behaviour***

2.6.1 Intervening Variables

The intervening variables in Figure 2.1 of Wilson's (1996) Model determine the success or failure of awareness, sources of information, access to and use of information on tobacco production health hazards. Psychological need is personal factors that are within the person in context. This may be physical ability, cognitive (recognition intelligence), affective (attitude and emotion). All these factors zero in to self-efficacy of an individual, which varies. Environmental factors (economic status, social standing, cultural norms, technological complexity, and political situations such as legislative, policies and laws,) affect the people's ability to identify the problem, initiate a demand, access and use of information pertinent to the problem. Demographic may be due to age brackets gender or section of population with a common need. Lastly source characteristics may be supportive or preventive to information

need due to the format and usability complexity of the information source.

2.7 Conceptual Framework

Conceptual framework gives a reflection of theoretical framework for this study. It shows the relationship between independent variables and dependent variables. The independent variable in this study is access and use of information while dependent variable tobacco production health hazards. The access and use of information as an independent variable entails awareness, information sources, tobacco farmers' self-efficacy and the nature and level of information. The independent variable affects the performance of dependent variable in terms of individual understanding, quality of information on tobacco production health hazards, level of exposure to health hazards and the safety of tobacco farmers.

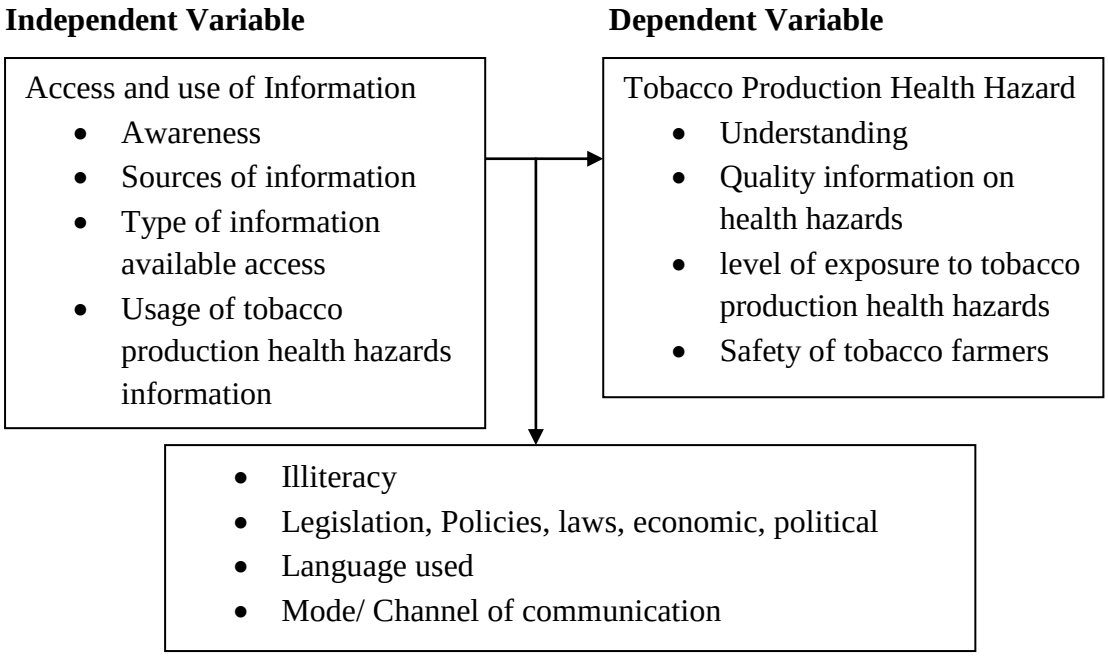


Figure 2.2: ***Conceptual Framework***

The variables of the conceptual framework in Figure 2.2 above shows that authoritative and right source of information with the required information made available to an able tobacco farmer will play significantly on tobacco production health hazards exposure. The authority of a relevant source of information needed by tobacco farmers would help him/her to understand better the context in which he/she operates. Access to this relevant information and use would reward a tobacco farmer in terms of making the right decision towards minimizing health hazards exposure and improve on the safety during farming. On the

contrary un authoritative source would risk tobacco farmer into wrong decision making. Thus, exposing him/her more to tobacco production health hazards. Tobacco farmers' self-efficacy would lead to successful access to and use of tobacco production health hazards information. Nature and level of information greatly determine the level of understanding and exposure to tobacco health hazards.

The intervening variables shows relationship between independent variable and dependent variable by either supporting or preventing and slowing or quickening the process towards a successful access and use of the information in need. Such intervening variables include; Information seeking knowledge and skills, this means a tobacco farmer who is knowledgeable and skillful in seeking information is more likely to get access to and use information on tobacco production health hazards successfully and reduce the exposure to health hazards and stay safe that unknowledgeable and unskillful farmer. Environmental factors, poor and bad environmental factors would hinder access and use of tobacco production health hazards information and vice versa. Psychological (attitude, emotions, physical ability) would also affect the success or failure access to and use of information. Source characteristics which include format, language used, technological complexity e.tc will ease or quicken the process of access and use of tobacco production health hazards information. The relevance of information accessed to and used on tobacco production health hazards is better in achieving the ultimate goal.

2.8 Identified Research Gap

A lot of studies have identified many problems associated with the tobacco production health hazards such as deforestation, soil degradation, social economic, illness and diseases that tobacco farmers are exposed to. However, it is not clear how tobacco farmers become aware, which sources of information they access and use on tobacco production health hazards during tobacco farming. It is for this reason that the study endeavoured to find out.

CHAPTER THREE
METHODOLOGY

3.1 Introduction

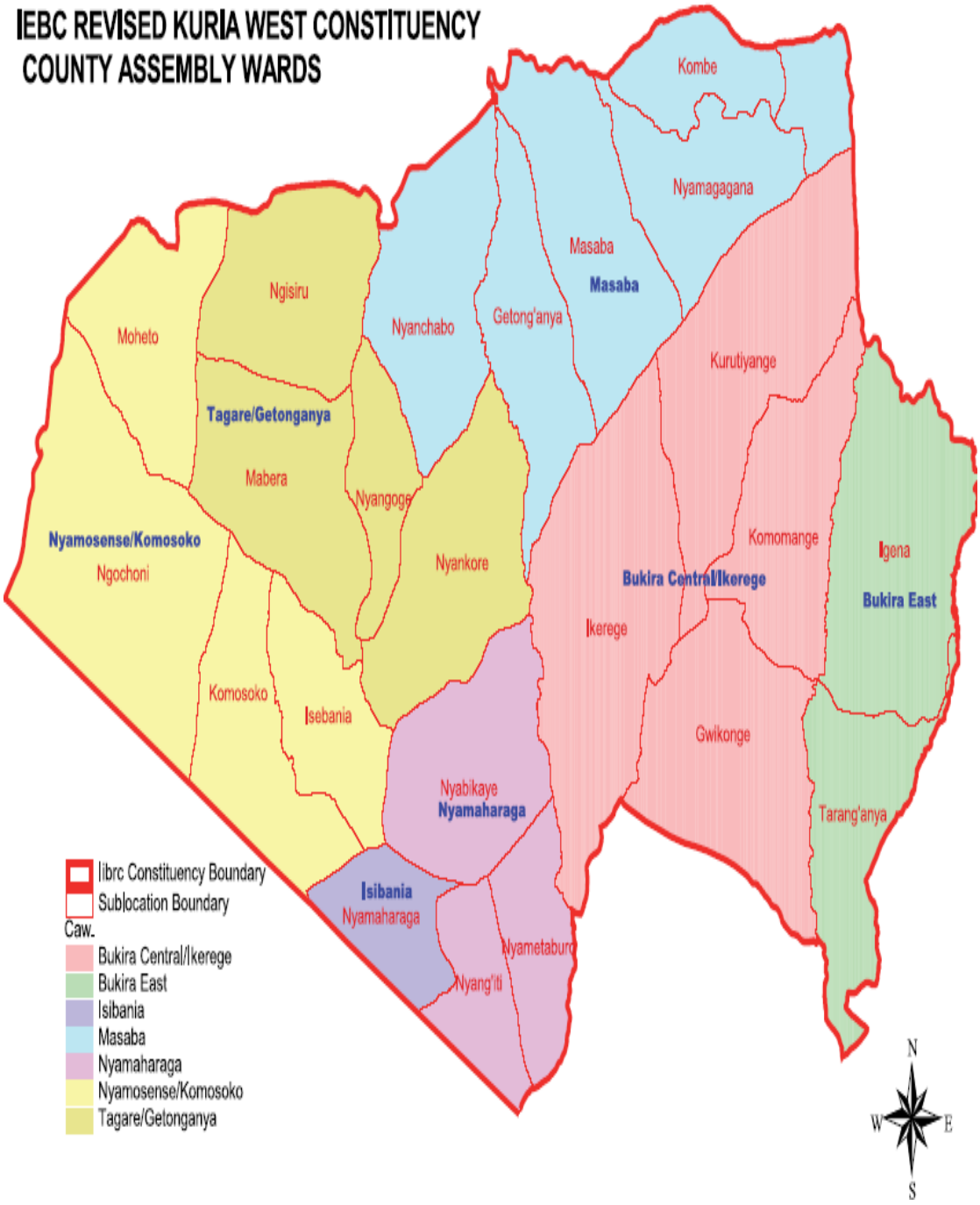
This chapter discusses the methodology that led to the results of this study. The areas discussed in this chapter included research design, area of study, study population, sample and sampling procedure, data collection, data analysis and ethical consideration.

3.2 Research Design

This study adopted a descriptive research design to collect data from respondents based on the four objectives of the study. Both qualitative and quantitative methods of data collection were utilized. Therefore, the mixed methods were appropriate for this study. Creswell (2014) states that research design is the philosophical assumption the researcher brings to the study in terms of procedures of inquiry. The interview took place between the researcher and the participants who were tobacco farmers. The researcher determined, described, identified the phenomena and brought in a clear understanding on the access to and use of tobacco production health hazards in Kuria west sub-county.

3.3. Location of the Study

The study was carried out in Kuria west sub-county, Migori County. Kuria west sub-County was chosen because it is one area in Kenya where tobacco production has remained the main cash crop since its introduction. And, it is an area where tobacco farmers are faced with multiplicity of health ailments associated with tobacco production health hazards. Kibwage *et al.* (2005) say that, about 60 per cent of medical cases in Kuria district are attributed to tobacco production and processing. Kuria west sub-county to the south borders the northern part of the Republic of Tanzania. To the north, it borders Migori town which is the county headquarters in Suna east sub-county. To the east, it borders Kuria east sub-county and to the west it borders Suna west sub-county. Kuria West Sub-County geographical coordinates are 0°30" South and 34°30" East and occupies an area of 395.7 square kilometers and a population of 208,513 (Kenya Republic, 2019). Kuria West is constituted by seven wards. These wards are Bukira East, Bukira Central/Ikerege, Isibania, Masaba, Makerero, Nyamosense/Komosoko and Tagare.



The targeted population for this study comprised of 8757 tobacco farmers from Kuria West Sub County (M. Wang'enyi, Personal communication, September 1, 2016) and 98 key informants which include 97 health care providers (G. Marwa, personal communication, January 5, 2018) and 1 Sub-county Agricultural Officer (personal visit to Sub County headquarter 6, 2017). However, the numbers of tobacco farmers and health care providers is not constant; it could vary with season and ministry of health recruitment and deployment respectively.

3.5 Sample and Sampling Procedure

The study adopted purposive sampling technique. The technique was used in selecting four (4) wards from the seven (7) wards of Kuria West Sub – County, Migori County, Kenya. The four (4) selected wards were Nyamosense/Komosoko, Tagare, Masaba and Bukira Central/Ikerege. Random sampling was then employed to select tobacco farmers and Key Informants from the four wards that were purposively selected based on the criteria of geographical spread and tobacco farmers' numerical strength. Simple random sampling was adopted in identifying respondents in each of the selected wards. However, Kuria West Sub-County Agriculture officer was not included in simple random sampling technique because he was the only respondent. The excluded wards were Bukira East, Makerero and Isibania. The wards were excluded because of their urban settlements, smaller in geographical spread and have less numbers of tobacco farmers. The sub-county Agricultural officer was selected for the study because he is the chief coordinator of all the agricultural activities in the Sub-county. The study adopted the formula in Nassiuma (2000) for the sample size $n = \frac{NC^2}{C^2 + (N-1)\ell^2}$ Where: n is the sample size, N is the population size, C is coefficient of variation ($\leq 30\%$) and ℓ is the standard error/level of precision/error. According to Nassiuma C = 0.25 (25%) and ℓ = 0.05 (5%) is acceptable for survey carried out on the population. The details of the sampling procedure and sample size are shown in the tables 3.1 and 3.2 below.

Table 3.1: Tobacco Farmers in Kuria West

S/No.	Name of Wards	Target No. of Tobacco Farmers	Sample Size	Sampling Technique
1	Bukira Central/Ikerege	2037	25	Simple Random
2	Masaba	1530	25	Simple Random
3	Tagare/Gitong'anya	1231	25	Simple Random
4	Nyamosense/Komosoko	1224	25	Simple Random
	Total		**100**	

Source: (M. Wangenyi, Personal communication, September 1, 2016*)*

Key Informants

Key informants were people whose social positions in society are highly regarded and are knowledgeable with valuable information on health hazards. The researcher chose key Informants, in order to gather a wide range of information for this study.

Table 3.2: Health Care Providers in Kuria West Sub-County Health Facilities

Name of Wards	**Name of Health Facilities**	**Target No. of Health Care providers**	**Sample Size**
	Kehancha Sub-County level IV	30	13
Bukira Central/Ikerege	Nyabokarange Health Centre	3	3
,,	Komasimo Health Centre	6	5
,,	Komomange Dispensary	1	1
Masaba	Masaba health Centre	3	3
,,	Kohanga Dispenasry	1	1
,,	Kombe Dispensary	2	2
Tagare	Nyangoge Health Centre	3	3
,,	Nyamekongoroto Health Centre	3	3
,,	Bugumbe Health Centre	3	3
Nyamosense/ Komosoko	Getongoroma Dispensary	1	1
,,	Komosoko Dispensary	2	2

3.6. Data Collection Instrumentation

The study adopted interview schedule and questionnaire for data collection.

3.6.1. Interview

A face –to- face interview sessions were held at the homes of each individual farmer. The homes of the farmers were found suitable for interview because it gave the interviewees freedom and comfort to participate and express their views freely. See interview schedule on appendix I. The researcher used the interview schedule to administer face –to- face interview for 95 tobacco farmers out of the 100 targeted respondents. The researcher introduced himself to each tobacco farmer he visited and explained the purpose of the interview and assured the respondents of confidentiality. The interview schedule was chosen as the main instrument for data collection. The interview schedule had closed questions. This research used an interview schedule translated in Kikuria language for collecting data. This was because some of the tobacco farmers had difficulties in understanding the questions expressed in English language. The translation gave the interviewee comfort during the conversation on issues that was not clear in English language; see the translation in the appendix1. The interview was considered as an appropriate tool for this research, because tobacco production being controversial and sensitive matter then face to face interactions in their homes was needed.

3.6.1. Questionnaire

Questionnaires were used to collect data from key informants, see appendix II. The questionnaire was appropriate to gather additional data from Key informants because it gave them an opportunity to respond to questions at their own convenient time and place. The researcher requested the farmers' representative of respective wards to link him to other fellow tobacco farmers. The set of questionnaires were given to the health care workers as shown in table 3.2. The researcher personally distributed questionnaires to health care providers in all the selected health facilities. Researcher collected back filled questionnaires in person on a date and time that was agreed upon from the contact person he identified in the facility. Both the interview and questionnaires reflected the research objective for the study.

3.7 Validity and Reliability

Validity is the degree to which data collected in the field represents the variables of the study. Validity is concerned with what the research instrument can measure and how well it can measure what it is supposed to measure. While, reliability is the repeatability of research

instrument to yield consistent results when the same test is conducted again using the same sample group.

3.7.1 Validity

The tools for data collection were a set of interview schedule for tobacco farmers and two sets of questionnaires for health care providers and Sub-County Agriculture Officer as key informants respectively. In order to achieve validity, face and content validity were considered. To achieve face validity the researcher translated the interview schedule into local language in order to be understood by tobacco farmers, while questionnaire for key informants were written clearly in an acceptable style and format for easy of readability. The researcher also observed content validity by ensuring that both the interview schedule and the questionnaire covered all the four objectives of the study. The content of the research instruments were reviewed by research supervisors and statistician to ensure its accuracy to measure of variables and approved.

3.7.2 Reliability

To ensure that the research was reliable, pilot study was done at Gokeharaka ward of Kuria east sub-county before the main study. The pilot-test enabled the researcher to determine if interview schedule was reliable and could yield desired results for this current study. This interview schedule was administered using random sample of 10% of the study sample size of (100 respondents) which translated to 10 tobacco farmers. The researcher visited tobacco farmers at their home and introduced himself before the start of the interview session. According to Connelly (2008), 10% of the sample projected for the study is the recommended sample for the pilot study. The reliability of the data collection tool was tested using Cronbach's Coefficient Alpha. The test achieved a significant level of acceptance of 0.70 and therefore, the instruments were considered reliable. Gokeharaka ward was chosen because it shared the same characteristics such as the small-scale contracted tobacco farmers, supply of input by tobacco manufacturing company among others.

3.8 Data Analysis

Descriptive statistics was used for data analysis. The frequencies, distribution and percentages were used in the analysis to bring out an understanding and interpretation of the issues under investigation. Statistical Package for Social Sciences (SPSS) software version 26 was used to analyze quantitative data. Inferential statistics (correlation and chi-square) were

applied to test the relationship between variables in objective two in question 5 and 6, and objective three in question 1, 4 and 5. The data collected from tobacco farmers through an interview schedule formed the main data of the study whereas data collected from key informant was for additional information. The results of the study were presented in form of tables, charts, figures and narrative. After the data analysis and presentation, the researcher did a write up on the conclusions and recommendation based on the results of the study.

3.9 Ethical Considerations

The researcher obtained an introduction letter from Egerton University graduate school that enabled him sought authority from the National Commission for Science, Technology and Innovation (NACOSTI) to conduct research. The researcher further sought permission from County Commissioner and County Government of Migori respectively before embarking on the pilot study and data collection. The researcher introduced himself to tobacco farmers and key informants, explained the purpose of the study and asked the respondents to voluntarily participate in the study after showing to them the Certificate and letters of approval. The researcher also treated information collected from respondents' confidential and anonymous to avoid collision of interests within the tobacco production industry. All sources of information consulted were cited and referenced in this thesis according to American Psychological Association (APA) 7th Edition referencing style.

CHAPTER FOUR
RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results and discussion of the research from the analyzed data that was collected based on the four objectives of the study. The objectives of the study were first, to find out the extent of awareness of tobacco farmers about health hazards of tobacco production. Secondly, to investigate tobacco production health hazards sources of information. Third, to determine the tobacco production health hazards information accessed by tobacco farmers and fourth, to assess how tobacco farmers use tobacco production health hazards information.

4.2 Demographic Information

The researcher targeted 141 respondents. These included; 100 tobacco farmers, 40 health care providers, and a Sub-County Agriculture Officer as per the sample sizes shown in chapter three. However, out of the targeted sample, 95 tobacco farmers participated in the interview, 38 health care providers filled the questionnaire distributed to them and returned to the researcher and the Sub-County Agriculture officer. Table 4.1 bellow shows the response rate of 95.04 % across all the categories.

Table 4.1: Response Rate

Category	Target Population	Successful	Response Rate %
Tobacco farmers	100	95	95
Health Care Providers	40	38	95
Sub-county Agriculture Officer	1	1	100
Total	141	134	95.04

According to Fincham (2008)) a response rate approximating 60% for most research should be the goal of researchers. But a survey research intended to represent all schools and colleges of pharmacy, a response rate of greater than or equal to 80% is expected. While Babbie (2001) says a response rate of 50% is adequate but 70% is very good.

4.3 Awareness about Tobacco Production Health Hazards

Awareness of a tobacco farmer could initiate the process of demanding for information; he/she must first become aware that tobacco production health hazards exist. The study sought to find out the awareness of tobacco production health hazards information among tobacco farmers in Kuria West Sub-county.

4.3.1 Tobacco Production Health Hazards Awareness

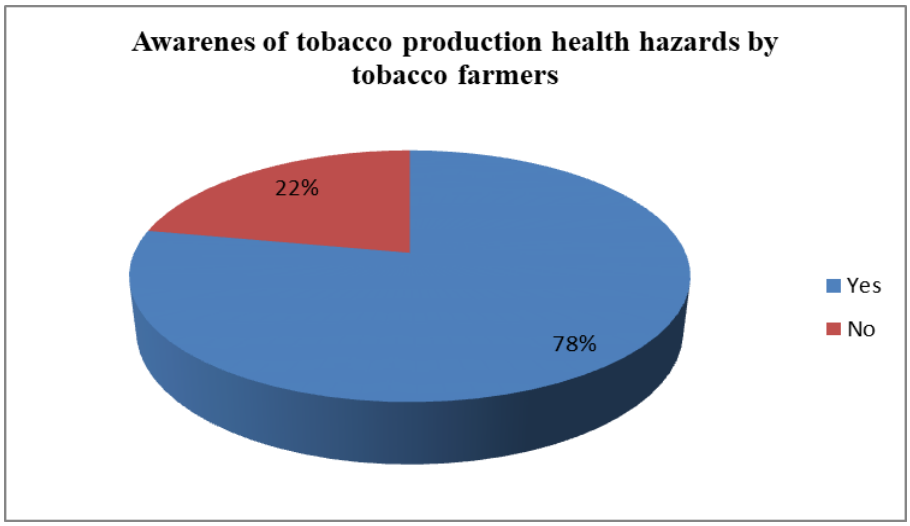


Figure 4.1: ***Awareness that tobacco production is full of health hazards***

The figure 4.1 above shows that 78% of tobacco farmers were aware that tobacco production exposes them to health hazards during tobacco production. However, 22 % of tobacco farmers were not aware. The awareness about tobacco production health hazards was embraced by 89.5% Kuria West health care providers who confirmed that they are also aware that tobacco production health hazards exist and pose serious injuries to tobacco farmers while 10.5% were of the contrary opinion.

4.3.2: Ways through which Tobacco Farmers Became Aware of Tobacco Production Health Hazards

Table 4.2: Ways tobacco farmers become aware of tobacco production health hazards

		Responses	
		N	Percent
Ways of becoming aware	Own observation	56	70.00%
	Fellow farmers	5	6.25%
	Health care professionals	2	2.50%
	College	1	1.25%

	Tobacco manufacturing companies	6	7.50%
	After falling sick	5	6.25%
	Church	2	2.50%
	Friends	3	3.75%
Total		80	100%

Table 4.2 above shows ways through which tobacco farmers became aware of tobacco production health hazards. 70% reported of becoming aware through own observations, second major way was 7.5% who became aware through tobacco manufacturing company, 6.25% reported that they gained awareness through fellow farmers and after falling sick respectively, 3.75% of tobacco farmers were aware through friends, 2.5% affirmed that they became aware through the Health professional and the church respectively and lastly 1.25% became aware through college. The results shows that majority of tobacco farmers were aware of tobacco production health hazards through informal ways. This was supported by 89.5% of health care providers who became aware through patients' tobacco farmers, media, documentation, and training whereas 10.5% of healthcare providers did not give any respond.

The results are consistent with the reviewed literature that says although specific health hazards are known, awareness to them is still poor and knowledge about the tobacco production health hazards is inadequate. There is still lack of proven effective control measures and recommended safety precautions as supported by (Davis *et al.,* 2007; Khan *et al.,* 2010 & Yang *et al*., 2010). When awareness about an issue is poor and inadequate, demand for information need on the issue is also poor. This is supported by Wilson's (1996) model of information seeking behavior, that it is the need that initiates a demand for information access and use.

4.3.3: Tobacco Production Health Hazards Encountered

Table 4.3: Tobacco Production Health Hazards

		Responses	
		No	Percent
Tobacco production health hazards	Chemical applications	88	37.93%
	Green tobacco sickness	28	12.07%
	Tobacco leaf dust	44	18.97%

	Second hand smoke	21	9.05%
	Heat	21	9.05%
	Smell	28	12.07%
	Hunger	2	0.86%
Total		232	100%

The detail of table 4.3 above shows that 37.93% of tobacco farmers indicated chemical applications as a tobacco production health hazard, followed by 18.97% who said tobacco leaf dust is a health hazard, the third known tobacco production health hazards are green tobacco sickness and smell both with 12.07%, while secondhand smoke and heat had 9.05% respectively and hunger stood at 0.86%.

4.3.4 Awareness of symptoms associated with tobacco production health hazards

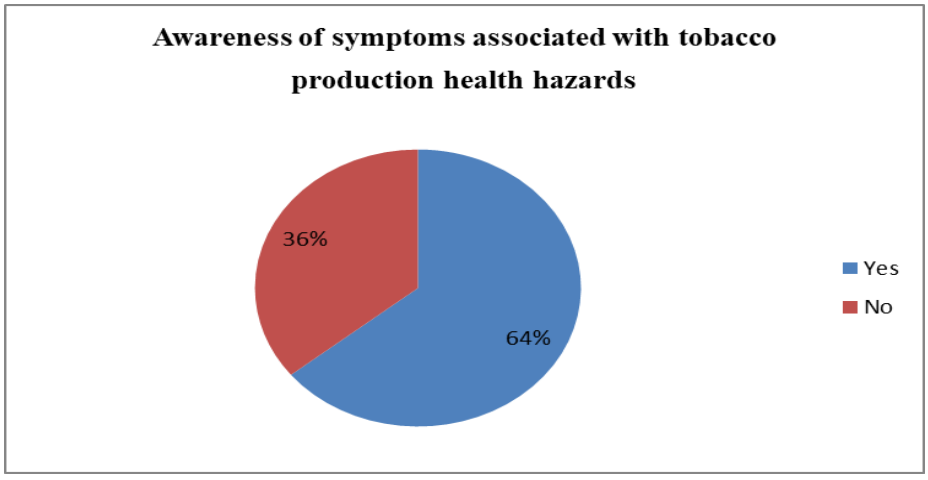


Figure 4.2: ***Awareness of symptoms associated with tobacco production health hazards***

Figure 4.2 show that 64% of tobacco farmers are aware of some symptoms associated with tobacco production health hazards while 36% were of the contrary.

4.3.5 Known Symptoms of Tobacco Production Health Hazards

Table 4.4 Symptoms that are known by tobacco farmers about tobacco production health hazards

Table 4.4: Known Symptoms of Tobacco Production Health Hazards

	Responses

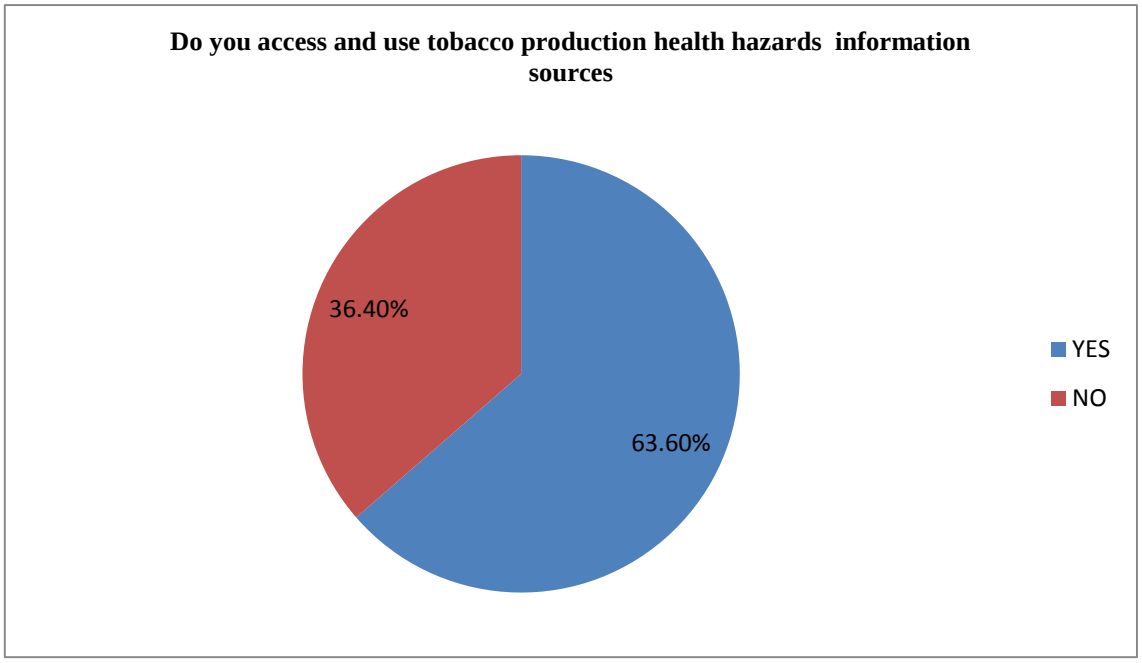
		N	Percent
Symptoms tobacco health hazards	Poor eye sight	13	8.67%
	Itching	34	22.67%
	Stomach pain	27	18%
	Coughing	35	23.33%
	Breathing Difficulties	4	2.67%
	Vomiting	19	12.66%
	Others (e.g headache, poor appetite, weakness)	18	12%
Total		150	100.0%

The details of the investigation on the symptoms of tobacco production health hazards known to tobacco farmers are shown in figure 4.3 above. The farmers who knew that cough was a symptom of tobacco production health hazards were 23.33%, followed by 22.67% who Knew itching as a symptom, 18.% of tobacco farmers knew stomach pains as a symptom associated with tobacco production health hazards, those who knew vomiting as a symptom were 12.65%, while 8.67% of the interviewee said poor eye sight is brought about by tobacco production health hazards, 12% of tobacco farmers said there are other symptoms that includes headache, poor appetite and weakness while those that attributed breathing difficulties to tobacco production health hazards were 2.67%. These results were supported by the health care providers, who affirmed that tobacco farmers knew the symptoms of tobacco production health hazards.

4.4 Information Sources of Tobacco Production Health Hazards

An information source determines the kind and quality of information a tobacco farmer gets access to and use. The information accessed and used enables a farmer to form an informed opinion about the current state of the real world in terms of tobacco production practices.

4.4.1 Access and Usage of Information Sources



Do you access and use tobacco production health hazards information sources

Figure 4.3*: The distribution of access and usage of tobacco production health hazards information sources*

This section concerns itself with whether tobacco farmers access and use any source of information on tobacco production health hazards. The result from figure 4.3 above shows that 63.6 % of the farmers access and use information from various sources, while 36.4 % do not access and use any source of information on tobacco production health hazards. The results show that majority of farmers' access and use sources of information. However, there is a considerable section of the farmers that do not access and use tobacco production health hazards.

4.4.2 Type of information sources accessed for tobacco production health hazards information by tobacco farmers.

Table 4.5: Type of Information sources accessed for tobacco production health hazards information by tobacco farmers.

		Responses	
		No	Percent
Sources of tobacco	Rural library	3	2.47%

production health hazards information	Rural Information Resource Centre	5	4.13%
	Television	1	0.82%
	Radio broadcast	8	6.61%
	Government agencies	15	12.39%
	Tobacco manufacturing companies	22	18.18%
	Informal sources (friends, fellow farmers, internet, newspapers)	23	19.00%
	No source	44	36.4%
Total		120	100%

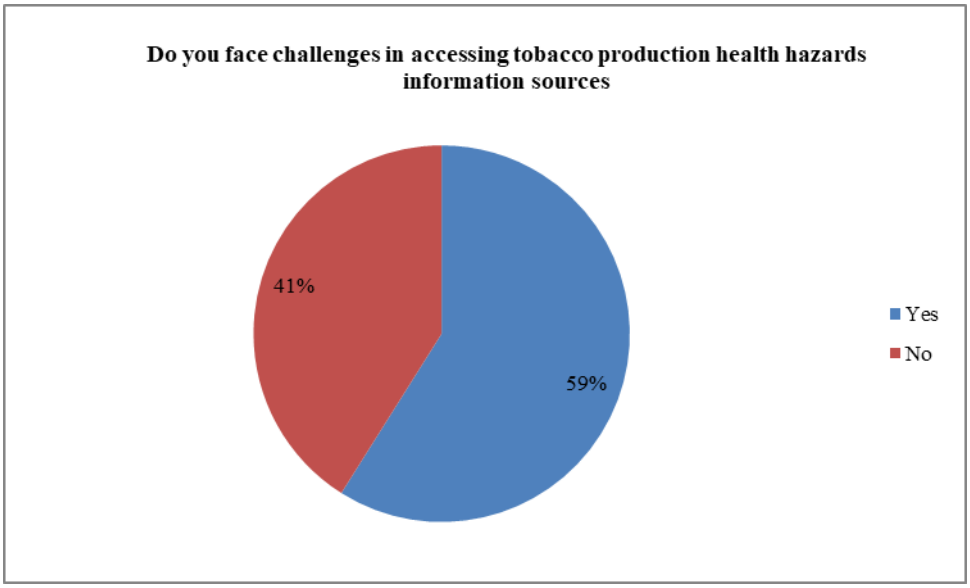
Table 4.5 shows that 36.40% used no source of tobacco production health hazards, 19.00% used informal sources, 18.18% used tobacco manufacturing companies' as their main source of information on tobacco production health hazards, 12.39% of tobacco farmers receive information from Government agencies, radio broadcast stood at 6.61% while 4.13% and 2.47% of tobacco farmers used rural information resource centre and Rural Library as their sources of information respectively and lastly television had 0.82%. This section focuses on the type of information sources tobacco farmers in Kuria West Sub-County access and use for tobacco production health hazards.

The result of this study shows that majority of tobacco farmers depend on informal sources for tobacco production health hazards information as alternative sources while tobacco manufacturing companies for example, BAT (K) became their main formal source of information. The findings of the study further showed that a total of 63.6% of tobacco farmers used various sources of information on tobacco production health hazards while 36.40% of tobacco farmers did not use any source of information for tobacco production health hazards. The results did not correspond with the reviewed literature, where tobacco farmers ought to access and use information about tobacco production health hazards from Rural Library, Rural information resource centre, agricultural extension services, mass media programme or any formal information provider (Bello & Obinne, 2012; Islam & Ahmed, 2012; Omogor, 2013; Misiko & Halm, 2014; Ndende & Kadodo, 2014). Tobacco farmers have resolved to use informal sources such friends, fellow ordinary farmers, their own experience among others. However, the reviewed literature agrees with this, that in the absence of informational institution, people predominantly rely on any functioning source of

information during the time of problem. This means local neighbours, friends and family become their major sources of information (Burger *et al.*, 2013 & Lwoga *et al.*, 2012).

These results from tobacco farmers are echoed by health care providers who said there are information sources such as Media, Government agencies and experts to help farmers get access to and use relevant information in order to stay safe during tobacco production. Lwoga *et al.* (2011) and Smith *et al*. (2011) supported this reviewed literature. The findings are also supported by Wilson (1996) model of information seeking behavior which says that when relevant information become a challenge, a person with information need either give up or go back and seek information from the available alternative source of information.

4.4.3 Do Tobacco Farmers Face challenges in Accessing Information Sources



Do you face challenges in accessing tobacco production health hazards information sources?

Figure 4.4: ***The distribution of whether tobacco farmers face in Accessing Information Sources***

This section focuses on whether tobacco farmers face any challenge in accessing these tobacco production health hazards information sources. The results from figure 4.4 above show that 59% of tobacco farmers reported that they face challenges of accessing and using tobacco production health hazards information sources, while 41% of the farmers were on the contrary. This means majority of tobacco farmers face challenges in accessing tobacco production health hazards information sources.

4.4.4 Type of Challenges tobacco farmers face in accessing tobacco production health hazard information

When tobacco farmers were asked to highlight on the challenges they face in the course of accessing tobacco production health hazard information source. The results were as shown in the table 4.6 below.

Table 4.6: T**ype of Challenges tobacco farmers face in accessing tobacco production health hazards information**

		Responses	
		N	Percent
challenges	Lack of sensitization	48	36.92
	Lack of institution	50	38.46
	No support from government	22	16.92
	Financial difficulties	10	7.70
Total		130	100

On the types of challenges table 4.6 above indicated that 38.46% of tobacco farmers cited lack of institution as the challenge, 36.92% said there is no sensitization on the health hazards of tobacco production, thirdly 16.92% reported lack of support from the government being a challenge, while 7.70% said they face financial difficulties. The finding of this study show that majority of tobacco farmers in Kuria West Sub-County Migori, Kenya lack institution that is charged with responsibility of information provision, followed by those who cited lack sensitisation. Financial difficulties were cited the least popular challenge in accessing and using tobacco production health information. The results of this study clearly agree with Wilson's 1999 model of information behaviour that says; information need pushes a person to seek for information in order to solve the problem affecting him or her

4.4.5 Frequency of Accessing Information Sources

Table 4.7: Correlations on frequency of accessing information sources

		Awareness of health Hazards	Frequency of Accessing Information Sources
Awareness of health Hazards	Pearson Correlation	1	.385**
	Sig. (2-tailed)		.000
	N	95	95
Frequency of Accessing Information Sources	Pearson Correlation	.385**	1
	Sig. (2-tailed)	.000	
	N	95	95

**. Correlation is significant at the 0.01 level (2-tailed).

An analysis in the table 4.7 above indicated that the more tobacco farmers access and use a certain information source on tobacco production health hazards the more they become aware of tobacco production health hazards. This table also demonstrates that the correlation between awareness of health hazards and frequency accessing information sources is positive with 0.385 and level of significance is 0.000. This implies that the awareness of tobacco health hazards is positively influenced by the frequency of accessing information sources. Therefore, the relationship is statistically significant.

Table 4.8: Correlation on the helpfulness of information sources

		Awareness of health Hazards	Helpful Information sources
Awareness of health Hazards	Pearson Correlation	1	.368**

	Sig. (2-tailed)		.000
	N	95	95
Helpful Information sources	Pearson Correlation	.368**	1
	Sig. (2-tailed)	.000	
	N	95	95

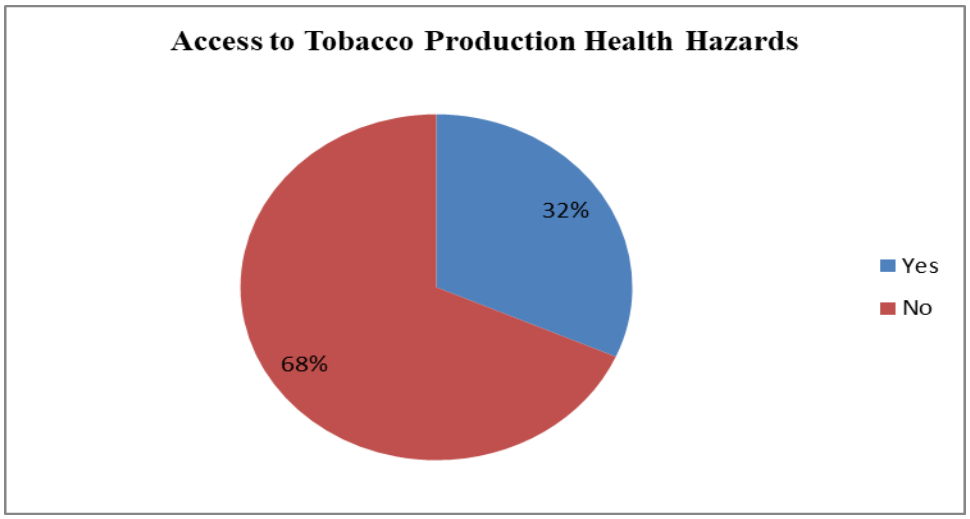
**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.8 show that the correlation between awareness of the existence of tobacco production health hazards and helpfulness of information sources is positive (0.368) and the level of significance is 0.000. The result of this analysis shows that awareness of tobacco production health hazards is influenced positively by the helpfulness of the information source and thus the relationship has statistical significant.

4.5 Nature of Information Accessed on the Safety of Tobacco Production

Health hazard are the injuries and illness that a tobacco farmer and their farm workers or any other person may be exposed to. The exposures happen when an individual is involved in the tobacco farming activities.

4.5.1 Access to tobacco production Health hazards information by tobacco farmers



Do tobacco Farmers Access tobacco production Health hazards information

Figure 4.5: ***The distribution of whether tobacco farmers Access Tobacco Production Health Hazards Information***

In this section the study wanted to find out whether tobacco farmers in Kuria West Sub-County access information on tobacco production health hazards. When 95 tobacco farmers were asked if they access tobacco production health hazards information, 68% said they don't access information on health hazards, while 32% of the tobacco farmers agreed that they access the health hazards information. The results in figure 4.5 above shows that majority of the farmers engage in tobacco farming without necessary information on tobacco production health hazard.

4.5.2 Usefulness of Tobacco Production Health Hazards Information

Table 4.9: Chi-square test of Association between Access of information and usefulness of information

		Extent of agreement on the usefulness of information on tobacco production health hazards						
Access to information on tobacco production Health hazards		Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	99	
	No	3	10	7	9	1	35	65
	Yes	0	0	0	0	0	30	30
Total		3	10	7	9	1	65	95

Table 4.10: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.237[a]	5	.001
Likelihood Ratio	28.770	5	.000

Linear-by-Linear Association	20.020	1	.000
N of Valid Cases	95		

a. 8 cells (66.7%) have expected count less than 5. The minimum expected count is .32.

An inferential analysis to determine the association relationship between access to tobacco production health hazards information and its usefulness among the tobacco farmers in Kuria West Sub-County was conducted. The views as presented in table 4.8 were run for chi-square test. Table 4.9 above shows the result of a chi-square test significant of 0.001<0.05. This indicated a positive relationship between access and use of information. A chi-square of 0.001<0.05 proves that the relationship between access to information and usefulness of information had a positive influence on the safety of tobacco farmers. This means that access to useful information on tobacco production health hazards play a significant role in the safety of tobacco farmers.

The positive relationship is in line with Wilson's 1996 model of information behavior which says that with access to information in need, the person in information context gets rewarded rather than the risk. 65.8% of the health care providers who participated in the study agreed that the tobacco farmers can be assisted to manage tobacco production health hazards in several ways such creating awareness by training, provision of protective gear, development of seminar programmes. While 34.2% of the health care providers said they don't know ways through which tobacco farmers can be assisted. In this section the results show that tobacco farmers can positively engage in tobacco production activities when they get access to useful information about tobacco production health hazards. This was supported by the majority of health care providers.

4.5.3 Information Access Support

Table 4. 11: Information Access Support for Tobacco Farmers

	Responses	
	N	Percent

Accessibility Support	Government	10	5.5%
	Tobacco manufacturing companies	75	41.4%
	NGOs	6	3.3%
	None	30	16.6%
	Personal	60	33.1%
Total		181	100.0%

Table 4.11 shows that 41.4% of tobacco farmers get support from tobacco manufacturing companies, 33.1% of the respondents say that they support themselves, while 16.6% indicated that they do not get any support. However, 5.55% and 3.35% receive support from government and NGOs respectively. This statement is supported by 84.2% of health care providers that said they have never participated in training tobacco farmers on tobacco production health hazards because they have never been informed or given any opportunity. 15.8% of the health care providers agreed to have participated in training tobacco farmers and did not comment on its usefulness. The results in this section indicated that majority of tobacco farmers receive support from tobacco manufacturing companies.

4.5.4 Adequacy of Health hazard Information

Table 4.12: Adequacy of tobacco production health hazards information accessed from sources of Information

		Responses	
		N	Percent
Adequacy of Accessing information from information sources	Very Adequate	23	4.0%
	Adequate	44	7.75%
	Neither adequate nor inadequate	72	12.6%
	Inadequate	202	35.4%
	Very inadequate	229	40.2%
Total		570	100.0%

An inferential analysis was conducted based on the results in table 4.12 above. This was to determine the correlations between adequacy of health hazards information accessed from sources of information and awareness of tobacco production health hazards. The details of the outcome are as shown in table 4.13 below.

Table 4.13: Correlations of relationship between adequacy of health hazard information accessed and awareness of health hazards

		Awareness of health Hazards	Adequacy of health hazard information accessed
Awareness of health Hazards	Pearson Correlation	1	.518**
	Sig. (2-tailed)		.000
	N	95	95
Adequacy of accessing health hazard info	Pearson Correlation	.518**	1
	Sig. (2-tailed)	.000	
	N	95	95

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.13 above shows that the correlation between awareness of health hazards and adequacy of tobacco production health hazards information has a positive of 0.518 and level of significance 0.000. This implies that the awareness of tobacco production health hazards is positively influenced by the adequacy of tobacco production health hazards information accessed. Therefore, the relationship is statistically significant

Table 4.14: Chi-square test of Association between Difficulty in accessing information and challenges

	Challenges in accessing tobacco production health hazards information				
Difficulty in accessing tobacco	Lack of understanding	Lack of telecommunication	Economic difficulty	Education level	Total

production	No	0	5	2	8	15
health hazards information	Yes	42	0	23	0	65
Total		42	5	23	8	80

Table 4.15: Chi-square test of Association between Difficulty in Accessing Information and effectiveness of the information.

		Extent of agreement on the usefulness of information on tobacco production health hazards					
Difficulty in accessing tobacco		Very effective	effective	Neutral	ineffective	Very ineffective	Total
production Health	No	0	15	0	0	0	15
hazards information	Yes	5	5	18	10	42	80
Total		5	20	18	10	42	95

The results in table 4.14 and table 4.15 above revealed that the information and challenges and effectiveness of accessing health hazards information respectively. An inferential statistics was conducted based on the collected data and the results are shown by the chi-square test in tables 4.16 and 4.17 below.

Table 4.16: Chi- Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	67.922[a]	3	.000
Likelihood Ratio	63.274	3	.000
Linear-by-Linear Association	21.661	1	.000

N of Valid Cases	80

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .94.

Table 4.17: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	66.797[a]	4	.000
Likelihood Ratio	60.377	4	.000
Linear-by-Linear Association	26.819	1	.000
N of Valid Cases	95		

a. 5 cells (50.0%) have expected count less than 5. The minimum expected count is .79.

Table 4.16 shows that difficulty in accessing information on tobacco production health hazards had an influence on the challenges faced by tobacco farmers. The chi-square significance of 0.000<0.05 shows that challenges of accessing information had influence on the difficulties tobacco farmers face in accessing information on tobacco production health hazards. Table 4.17 further shows that difficulty in accessing information had an influence on effectiveness of tobacco production health hazards information. The chi-square 0.000<0.05 confirms that difficulty in accessing information had an influence on the effectiveness of the tobacco production health hazards information. These could be attributed to lack of established law and policy on tobacco production health hazards information.

This is also supported by 84.2% of health care providers who said they are not aware of any policy. While 15.8% health care providers listed family smoking prevention and tobacco control Act, tobacco control Act 2007 and tobacco control regulation 2014 in the order of 1, 2, and 3. The results in this section revealed that the adequacy of tobacco production health hazards information accessed positively impact on the awareness of tobacco production health hazards. The results further show that the challenges tobacco farmers face are as a result of having difficulties in accessing the information on tobacco production health hazards

and which in turn affect the effectiveness of the tobacco production health hazards information.

4.6 Use of Tobacco Production Health Hazards information

4.6.1 Use of accessed tobacco production health hazards information by tobacco farmers

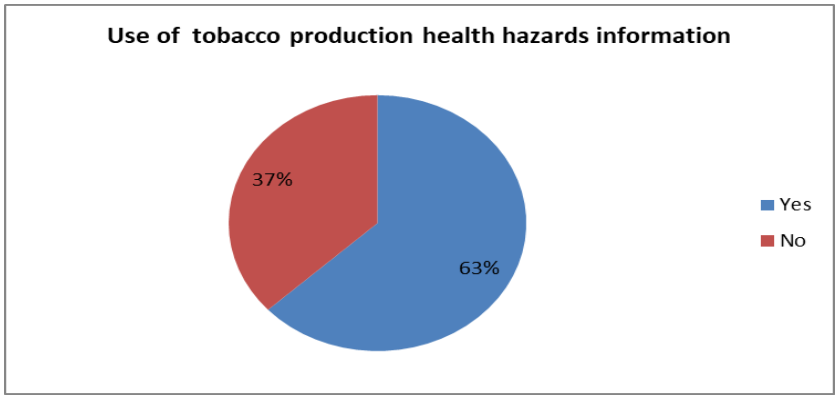


Figure 4.6. ***The distribution of the use of accessed tobacco production health hazards information***

Figure 4.6 above shows that 63% of tobacco farmers use the information on tobacco production health hazards while 37% were of the contrary opinion. The statistics indicated that majority of the farmers use tobacco production information.

4.6.2 Tobacco Production Health hazards information used by tobacco farmers

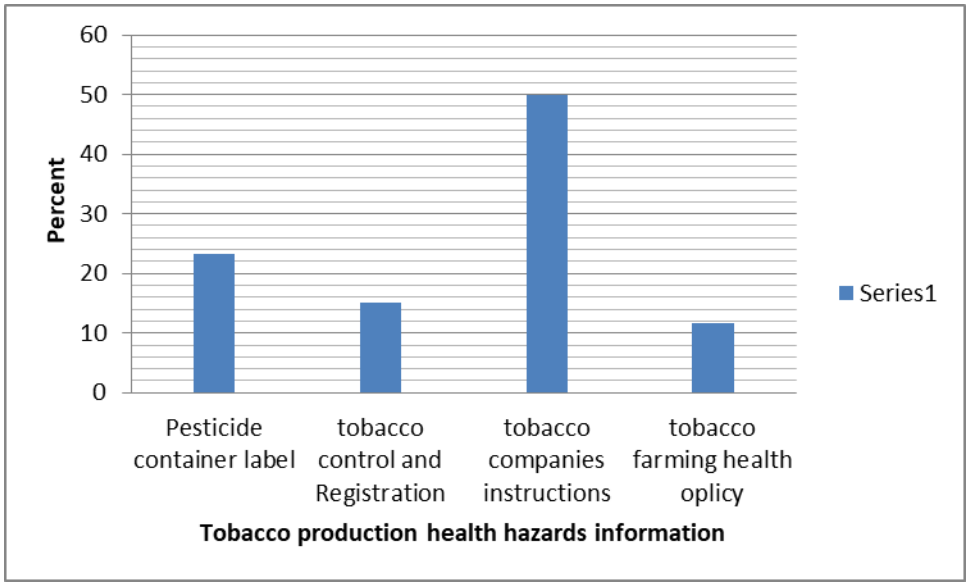


Figure 4.7: ***Tobacco production health hazards information used by tobacco farmers***

Figure 4.7 revealed that 50% of the Tobacco farmers use the information they access from tobacco manufacturing companies, 23.3% of tobacco farmers said that they use information on pesticide container labels, 15% and 11.7% of the tobacco farmers reported use of tobacco control and registration and tobacco farming health policy information respectively. The data here indicated that majority of tobacco farmers use tobacco manufacturing companies' instructions as health hazards information, followed by pesticides container labels.

4.6.3 Frequency of using tobacco production health hazards information

Table 4.18: Frequency of tobacco production health hazards information use

		Response	
		N	**Percent**
Frequency of using tobacco production Health hazards information	Always	10	10.53%
	Often	20	21.05%
	Sometime/occasionally	10	10.53%
	Rarely	30	31.58%
	Never	25	26.31%
Total		95	100%

Table 4.18 above revealed that 31.6% of tobacco farmers rarely use tobacco production health hazards information, 26.3% said never use the information on health hazards, 21.1% often use the information, while 10.5% of tobacco farmers said they always and sometimes use health hazards information respectively. These results show that majority rarely use health hazards information.

4.6.4 Adequacy of Using Tobacco Production Health Hazards Information

Table 4.19: Adequacy of tobacco production health hazards information in safeguarding the tobacco farmers

		Responses	
		No	**Percent**
Adequacy of tobacco production	Very adequate	7	7.37%

health hazards information	Adequate	3	3.16%
	Neutral	15	15.79%
	Inadequate	50	52.63%
	Very inadequate	20	21.05%
Total		95	100%

Table 4.6 Adequacy of tobacco production health hazards information

Table 4.19 indicated that 52.63% of the interviewed tobacco farmers said that information use is inadequate to make them secure during tobacco production, 21.05% affirmed that the information they use is very inadequate, followed by 15.79% who said the information is neither adequate nor inadequate. However, 3.16% agreed that the information they use is adequate and 7.37% reported that the information is very adequate to make them secure during tobacco production. The finding indicated that the used information on tobacco production health hazards is inadequate. This finding is in consistent with the reviewed literature which says knowledge about the tobacco production health hazards is inadequate and lack proven effective control measures and recommended safety precautions (Davis *et al*., 2007; Khan *et al*., 2010; & Yang *et al.*, 2010). The findings are supported by Wilson (1996) model of information seeking behavior which says that in a case where information is not enough, then a person in information context should restart the process of seeking more information.

4.6.5 Implementation Support on tobacco production health hazards information

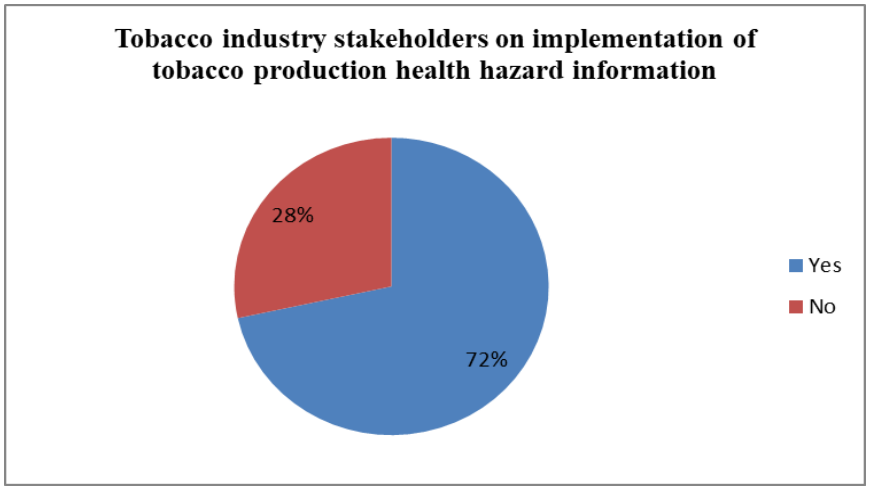


Figure 4.8: ***Implementation support of tobacco production health hazards information***

The result in figure 4.8 show that 72% of tobacco farmers get support on the usage of tobacco production health hazard information from tobacco manufacturing companies, while 28% do not get any support. The findings are not in consistence with the reviewed literature that shows tobacco farmers are yet to be equipped with necessary information about tobacco production health hazards that would protect tobacco farmers and farmworkers to minimize their exposure (Damalas *et al*., 2006; Ramin, 2006; & Human Right Watch, 2014). The findings are also supported by Wilson (1996) model of information seeking behavior which says the usage of information depends on processing, the person in context and the context of information.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the findings of the study, conclusions based on four specific objectives, recommendations of the study were discussed and suggestions for further studies made.

5.2 Summary of Findings

The research was guided by four objectives and the summary presented according to the objectives

Awareness about tobacco Production Health Hazards among Tobacco Farmers in Kuria West Sub-County

The findings of this study clearly show that awareness about tobacco production in Kuria West Sub-County is informally acquired and there are no established formal means through which tobacco farmers become aware of tobacco production health hazards. The study further shows that many of the symptoms associated with tobacco production health hazards are not recognized by the tobacco farmers. However, coughing, itching and stomach pain were known by a few of the tobacco farmers as symptoms that are associated with tobacco production health hazards.

Sources of Tobacco Production Health hazards Information

The findings show that majority of tobacco farmers access and use information sources that are informal. Tobacco manufacturing companies such as BAT (K) Master Mind Tobacco (K) has remained the main source of information for tobacco production health hazards in Kuria West Sub-County tobacco farmers. The findings also show that majority of tobacco farmers are faced with challenges of accessing tobacco production health hazards information sources. There are no informational institutions such as libraries and Resource Centres in Kuria West Sub-County that tobacco farmers can rely on for tobacco production health hazards information. There is also lack of sensitization.

Nature of Information accessed on the safety of tobacco Production

The findings show that majority of tobacco farmers engage in tobacco farming without necessary information about tobacco production health hazards, neither do they receive

accessibility support from any other source other than tobacco manufacturing companies. The information they receive is inadequate to make them secure during the tobacco production activities. Lack of understanding of scientific language used on chemicals container labels is a challenge that makes it difficult for tobacco farmers to access tobacco production health hazards information.

Use of Tobacco Production Health Hazards Information

The findings show that majority of tobacco farmers make use of tobacco production health hazards information they access such as, tobacco companies instructions, pesticides container labels among others. The study also found that the information they receive and use is also inadequate to safeguard them despite the implantation support they get from tobacco manufacturing companies.

5.3 Conclusions

i) Tobacco farmers in Kuria West Sub-County are aware of some tobacco production health hazards and their related symptoms, but the details of the information that would secure or safeguard them from the tobacco health hazards is lacking or not clear.

ii) Tobacco farmers in Kuria west sub-county do not have any institutions such as Rural Information Resource Centre or rural/community library to organize training, workshops and conferences for tobacco farmers. The farmers rely on information from unauthoritative informal sources for tobacco production mainly, manufacturing companies that have conflict of interest. Therefore, leaving tobacco farmers with challenges /difficulties in accessing reliable information about tobacco production health hazards.

iii) Majority of tobacco farmers in Kuria West do not access requisite information about tobacco production health hazards that adequately guarantee their safety during tobacco production. The study also depicted that the adequacy of information on tobacco production health hazards increases awareness and use of information on tobacco production health hazards.

iv) Majority of tobacco farmers use any available information on tobacco production health hazards. The available information is inadequate to make them secure because the sources are not proven ones.

5.4 Recommendations

i) There is need to have established institutions that can possibly make tobacco farmers rightfully become aware of tobacco production health hazards. Therefore, institutions such rural libraries, rural information resource centres, agriculture extension services should be put in place to equip the tobacco farmers and other stakeholders with relevant knowledge about tobacco production health hazards. This is because the channels through which they become aware are not established sources or authentic.

ii) Tobacco manufacturing companies should not be left to be the main source of information for tobacco farmers; this is because the information may be misspoken because of the conflict of interest. Neutral organizations such as, the Rural libraries, Rural Information Resource Centre, that are mandated to organize for training, conferences, seminars among others for tobacco farmers about tobacco production health hazards. These organizations would help tobacco farmers to stay safe while engaging in activities of tobacco production.

iii) In order to guarantee effective and efficient access to information for tobacco farmers, qualified and non-partisan entities should be involved in the provision of tobacco production health hazards information. The government to be in the forefront in equipping tobacco farmers with information and other covers that guarantee them of their safety.

iv) There is need to have established institutions that would be responsible for acquisition, process, organization, storage and dissemination of information for information that is cable of safeguarding tobacco farmers during tobacco production. The institution disseminating tobacco production health hazards information should be able to repackage information in the most usable formats that are well and easily understood by tobacco farmers.

5.5 Suggestions for Further Studies

This research was done in Kuria west sub-county, Migori County, Kenya. The researcher therefore recommends that other studies be conducted

i) To investigate the educational level of tobacco farmers with regards to use of tobacco production health hazard information.
ii) To establish the information tobacco farm workers access and use on tobacco health hazards.

REFERENCES

Abila, R.O. (2006). *Tobacco in Kuria district Kenya: status, impact and policy issues, A consultancy report for action aid. Kisumu, Kenya*: International Fund for Agricultural Development.

Achalli, S., Shetty, S. R., & Babu, S. G. (2012). The green hazards; a meta-analysis of green tobacco sickness. *International Journal of Occupational Safety and Health,* 2(1) 11-14. DOI: https://doi.org/10.3126/ljosh.v2il.4963

Adamides, G., & Stylianou, A. (2018). Evaluation of the radio as agricultural information in rural areas. *Journal of Agricultural and food Information,* 19(4), 362-376. DOI: 10.1080/104965005.2017.1401480

Ajani, E. N. (2014). Promoting the Use of Information and Communication Technologies (ICTs) for Agricultural Transformation in Sub-Saharan Africa: Implications for Policy. *Journal of Agricultural & Food Information*, *15*(1), 42–53. https://doi.org/10.1080/10496505.2013.858049

American Lung Association in California the centre for tobacco policy and organization (2015). *Tobacco money in California politics: campaign contributions and lobbying expenditures of tobacco interests Report for the 2013-2014 election cycle*. California: American Lung Association in California.

Arcury, T. A., & Quandt, S. A. (2006). Health and social impacts of tobacco production. *Journal of Agromedicine*, *11*(3-4), 71–81. https://doi.org/10.1300/J096v11n03_08

Bello, M., & Obinne, C. P. O. (2012). Problem and prospects of agricultural information sources utilization by small farmers: A case from Nasarawa state of Nigeria. *Journal of Communication,* 3(2), 91-98. DOI: 10.1080/0976691X.2012.11884799.

Babbie, E., & Mouton, J. (2001). *The practice of social research*. Cape Town. Oxford University Press.

Benedict, C. (2011). *Golden-silk smoke: a history of tobacco in china, 1550-2010*. University of California Press. https://www.jstor.org/stable/10.1525.

Brandt, A. M. (2012). Inventing Conflicts of Interest: A History of Tobacco Industry Tactics. *American Journal of Public Health*, *102*(1), 63–71. https://doi.org/10.2105/ajph.2011.300292

Burger, J., Gochfeld, M., Jeitner, C., Pittfield, T., & Donio, M. (2013). Trusted Information Sources Used During and After Superstorm Sandy: TV and Radio were Used More

Often than Social Media. *Journal of Toxicology and Environmental Health, Part A*, *76*(20), 1138–1150. https://doi.org/10.1080/15287394.2013.844087

Campaign for tobacco free kids (2001). *Golden leaf barren harvest: the costs of tobacco farming.* Washington DC: Campaign for tobacco free kids.

Chacha, B. K. (2011). *Tobacco and social ecological change in Kuria District Kenya, 1969-2002: a historical perspective.* Unpublished Doctoral Thesis. Egerton University.

Clark, M., Magati, P., Drope, J., Labonte, R., & Lencucha, R. (2020). Understanding Alternatives to Tobacco Production in Kenya: A Qualitative Analysis at the Sub-National Level. *International Journal of Environmental Research and Public Health*, *17*(6), 2033. https://doi.org/10.3390/ijerph17062033

Connelly, L. M. (2008). Pilot studies. *Medsurg Nursing: Official Journal of the Academy of Medical-Surgical Nurses*, *17*(6), 411–412. https://pubmed.ncbi.nlm.nih.gov/19248407/

Creswell, J. W. (2014). *Research design: qualitative, quantitative and mixed approaches.* 4th ed. Los Angeles. SAGE.

Damalas, C. A., Theodorou, M. G., & Georgiou, E. B. (2006). Attitudes towards pesticide labelling among Greek tobacco farmers. *International Journal of Pest Management*, *52*(4), 269–274. https://doi.org/10.1080/09670870600792101

Damalas, C. A., & Khan, M. (2016). Farmers' attitudes towards pesticide labels: implications for personal and environmental safety. *International Journal of Pest Management*, *62*(4), 319–325. https://doi.org/10.1080/09670874.2016.1195027

Davis, R. M., Wakefield, M., Amos, A., & Gupta, P. C. (2007). The Hitchhiker's Guide to Tobacco Control: A Global Assessment of Harms, Remedies, and Controversies. *Annual Review of Public Health*, *28*(1), 171–194. https://doi.org/10.1146/annurev.publhealth.28.021406.144033

Dresler, C., & Marks, S. P. (2006). The Emerging Human Right to Tobacco Control. *Human Rights Quarterly*, *28*(3), 599–651. https://doi.org/10.1353/hrq.2006.0032

Fincham, J. E. (2018). Response Rates and Responsiveness for Surveys, Standards, and the Journal. *American Journal of Pharmaceutical Education*, *72*(2), 43. https://doi.org/10.5688/aj720243

Glantz, S., Slade, J., Bero, L., Hanauer, P., & Barnes, D. (1996). *The Cigarette paper.* Berkeley: University of California Press.

Heinrichs, J. H., Lim, J.-S., & Lim, K.-S. (2011). Influence of social networking site and user access method on social media evaluation. *Journal of Consumer Behaviour*, *10*(6), 347–355. https://doi.org/10.1002/cb.377

Hoe, C., Kennedy, R. D., Spires, M., Tamplin, S., & Cohen, J. E. (2019). Improving the implementation of tobacco control policies in low-and middle-income countries: a proposed framework. *BMJ Global Health*, *4*(6), e002078. https://doi.org/10.1136/bmjgh-2019-002078

Human Rights Watch (2014). *Tobacco's hidden children: Hazardous child labour in United States tobacco farming*. USA: Human Right Watch.

Islam, Md. S. (2009). The Community Development Library in Bangladesh. *Information Development*, *25*(2), 99–111. https://doi.org/10.1177/0266666909104711

Islam, S., & Zabed Ahmed, S. M. (2012). Rural library services. *New Library World*, *113*(3/4), 118–138. https://doi.org/10.1108/03074801211218462\

Jackson, L. L., & Rosenberg, H. R. (2010). Preventing Heat-Related Illness Among Agricultural Workers. *Journal of Agromedicine*, *15*(3), 200–215. https://doi.org/10.1080/1059924x.2010.487021

Johnson, E. B. (2000). Tobacco and public policy in the U.S. A. *Reference Service Review,* 28(1), 17-23. https://dx.doi.org/ 10.1108/00907320010313740.

Jones, A. S., Austin, W. D., Beach, R. H., & Altman, D. G. (2008). Tobacco Farmers and Tobacco Manufacturers: Implications for Tobacco Control in Tobacco-Growing Developing Countries. *Journal of Public Health Policy*, *29*(4), 406–423. https://doi.org/10.1057/jphp.2008.37

Journal of Documentation: Vol. 55 Iss. 3 | Emerald Insight. (n.d.). Www.emerald.com. Retrieved August 2, 2024, from https://www.emerald.com/insight/publication/issn/0022-0418/vol/55/iss/3

Kathuri, N. J., & Pals, D. A (1993). *Introduction to educational research*. Njoro: Egerton University.

Kegley, S. E., Hill, B. R., Orme, S., & Choi, A. H. (2014*). PAN pesticide database. Pesticide Action Network.* North America (Oakland, CA) https://www.pesticide.info.org.

Kenya, Republic of (2010). *The constitution of Kenya*. Nairobi: Government Printer.

Kenya, Republic (2019). *Kenya population and housing census volume 1: population by county and sub-county*. Nairobi: Government Printer.

Khan, D. A., Shabbir, S., Majid, M., Naqvi, T. A., & Khan, F. A. (2010). Risk assessment of pesticide exposure on health of Pakistani tobacco farmers. *Journal of Exposure Science & Environmental Epidemiology*, *20*(2), 196–204. https://doi.org/10.1038/jes.2009.13

Kibwage, J. K., Netondo, G. W., Kapiyo, R. A., & Nyantika, D. (2005). *Final technical proceedings report on workshop on the diversification of household livelihood strategies for tobacco small-holder farmers (South Nyanza region, Kenya).* Canada: IDRC.

Kibwage, J. K., Othoo, C. O., & Ndungu, C. (2019). Environmental Audit and Policy Compliance of Tobacco Farming Practices in Migori County, Western Kenya. *Journal of UOEH*, 41(3), 259–269. https://doi.org/10.7888/juoeh.41.259

Kiplang'at, J., & Rotich, D. C. (2012). Mapping and auditing agricultural indigenous knowledge in Kenya: a case of the Uasin Gishu and Keiyo districts. Innovation: *Journal of Appropriate Librarianship and Information Work in South Africa,* 2012(44), 81-100. University of Kwanzulu-Natal.

Kothari, C. R. (2004). *Research methodology; methods & techniques.* New Delhi. New Age International.

Kutub, J. R., & Falgunee, N. (2015). Environmental degradation due to tobacco cultivation in Bangladesh: a case study of Doulathpur, Kushtia. *Malaysian Journal of Society and Space*, 11(7), 1-8. //C:/user/library/downloads/18785-53197-1.sm.pdf

Kweyuh, P. H. M. (1994). Tobacco expansion in Kenya: the socio-ecological losses. *Tobacco Control*, 3(3), 248-251.

Lecours, N., Almeida, G. E. G., Abdallah, J. M., & Novotny, T. E. (2012). Environmental health impacts of tobacco farming: a review of the literature: Table 1. *Tobacco Control*, *21*(2), 191–196. https://doi.org/10.1136/tobaccocontrol-2011-050318

Looking inside the tobacco industry: revealing insights from the Guildford Depository. (2004). *Addiction*, *99*(4), 394–397. https://doi.org/10.1111/j.1360-0443.2004.00718.x

Lencucha, R., Drope, J., Magati, P., & Sahadewo, G. A. (2022). Tobacco farming: overcoming an understated impediment to comprehensive tobacco control. *Tobacco Control*, *31*(2), 308–312. https://doi.org/10.1136/tobaccocontrol-2021-056564

Lukuyu, B., Place, F., Franzel, S., & Kiptot, E. (2012). Disseminating Improved Practices: Are Volunteer Farmer Trainers Effective? *The Journal of Agricultural Education and Extension*, *18*(5), 525–540. https://doi.org/10.1080/1389224x.2012.707066

Lwoga, E. T., Stiiwell, C., & Ngulube, P. (2011). Access and use of agricultural information and knowledge in Tanzania. *Library Review*, 60(50), 383-395. https://doi.org/10.1108/00242531111135263

Mackay, J., & Crofton, J. (1996). Tobacco and the developing world. *British Medical Bulletin*, *52*(1), 206–221. https://doi.org/10.1093/oxfordjournals.bmb.a011527

Marwa, L. B. (2012). *Assessment of environmental management practices amongst tonacco farmers in Kuria West Sub-County Migori County*. Repository South Eastern University, Kenya

McDaniel, P. A., & Malone, R. E. (2012). British American Tobacco's partnership with Earthwatch Europe and its implications for public health. *Global Public Health*, *7*(1), 14–28. https://doi.org/10.1080/17441692.2010.549832

McDaniel, P. A., Cadman, B., & Malone, R. E. (2016). *Shared vision, shared vulnerability: a context analysis of corporate social responsibility information on tobacco industry website.* https://doi.org/10.1016/j.ypmed.2016.05.033

Migori County (2013). *First County integrated development plan 2013 – 2017*. Nairobi: Government Printer.

Mishara, G. A., Pimple,S. A., & Shastri, S. S. (2012). An overview of the tobacco problem in India. *Indian Journal of Medical and Pediatrics Oncology*, 33(3), 139-145. DOI: 10.4103/0971-5851-103139.

Misiko, M. & Halm, E. (2016). ABCs of diversifying information resources among small holders in Ghana, *The Journal of Agricultural Education and Extension*, 22(3), 271-289. DOI: 10.1080/1389224x.2015.103281.

Misura, M., Cerovic, L., & Buterin, V. (2018). Relationship between corporate social responsibility and business success: a case of the global tobacco industry. *Journal of Contemporary Management Issues,* 23(1), 157. http://doi.org/10.30924/mjcm/2018

Mohamed, S. F., Juma, P., Asiki, G., & Kyobutungi, C. (2018). Facilitators and barriers in the formulation and implementation of tobacco control policies in Kenya: a qualitative study. *BMC Public Health*, *18*(S1). https://doi.org/10.1186/s12889-018-5830-x

Mugwisi, T. (2015). Communicating agricultural information for development: the role of media in Zimbwabwe. *LIBRI*, 65(4), 281-299. DOI: 10.1515/libri-2015-0094.

Mwantimwa, K. (2017). Auditing information and knowledge accessed and utilized from community resource centrers in Bunda district, Tanzania. *University of Dar es salaam Libray Journal*, 12(1), 28-47.

Nassiuma, D. K. (2000). *Survey sampling: theory and Methods*. Nairobi: Nairobi University Press.

Ndinde, S., & Kadodo, W. (2014). The role of community based information centrers in development; lessons for rural Zimbabwe. *International Journal of Learning, Teaching and Educational Research*, 2(1), 44-53.

Nguyen, T. H., Minh, H.V., & Giang, K. B. (2009*). Impact of tobacco growing on the livelihood and health of tobacco farmers and the environment: preliminary study in Vietnam.* Hanoi: Southeastern Asia Tobacco Control Alliance.

Ochola, S. A., & Kosura, W. (2007). *Case study on the tobacco cultivation and possible alternative crops in Kenya.* Institute for Natural Resources and Technology Studies.

Oladele, O. I. (2011). Effect of Information Communication Technology on Agricultural Information Access Among Researchers, Extension Agents, and Farmers in South Western Nigeria. *Journal of Agricultural & Food Information*, *12*(2), 167–176. https://doi.org/10.1080/10496505.2011.563229

Omogor, I. M. (2013). Channels of information acquisition and dissemination among rural dwellers. *International Journal of Library and Information Science Review*, 5(10), 306-312. https://doi.org/10.5897/IJLIS11.036

Paula, A., Richter, C., Luis, Hasselmann, G., Turci, R., Luiza Da Costa, V., Richter, C., Hasselmann, L., & Turci, S. (2022). *Tobacco industry's use of Corporate Social Responsibility strategies to join the 2030 Agenda for Sustainable Development*. https://tabaco.ensp.fiocruz.br/sites/default/files/001414b.pdf

Prowse, M. (2013). A history of tobacco production and marketing in Malawi 1890-2010. *Journal of East Africal Studies*, 7(4), 691-712. DOI: 10.1080/17531055.205077

Ramin, B. (2006). The 2005 kari Polanyi levitt prize- winning essay science, politics and tobacco in the developing world. *Canadian Journal of Development Studies*, 27(3), 383-401. Doi: 10.1080/02255189.2006.9669154.

Reigart, R. J., & Roberts, J. R. (1999). *Recognition and Management of pesticide poisoning.* Washington DC: United States Environmental Protection Agency.

Schmitt, N. M., Schmitt, J., Kouimintzis, D. J., & Kirch, W. (2007). Health risks in tobacco farm workers—a review of the literature. *Journal of Public Health*, *15*(4), 255–264. https://doi.org/10.1007/s10389-007-0122-4

Scoones, I., Mavedzenge, B., Murimbarimba, F., & Sukume, C. (2017). Tobacco, contract farming, and agrarian change in Zimbabwe. *Journal of Agrarian Change*, *18*(1), 22–42. https://doi.org/10.1111/joac.12210

Sitati, A. M. (2016, June 1). *Environmental, health and safety implications of tobacco production in Malakisi division, Bungoma County, Kenya*. Erepository.uonbi.ac.ke. http://erepository.uonbi.ac.ke/handle

Smith, J., & Lee, K. (2018). From colonization to globalization: a history of state capture by the tobacco by the tobacco industry in Malawi: *Review of African Political Economy,* 45(156), 186-202. DOI: 10.1080/03056244.2018.1431.

Smith, J., Thompson, S., & Lee, K. (2016). "Public enemy no. 1": Tobacco industry funding for the AIDS response. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*, *13*(1), 41–52. https://doi.org/10.1080/17290376.2016.1164617

Smith, M. L., Menn, M., & McKyer, E. L. J. (2011). Effectiveness of the Radio as a Health Information Source. *Journal of Radio & Audio Media*, *18*(2), 196–211. https://doi.org/10.1080/19376529.2011.615776

Sneilders, S. (2021). Normalization and ambivalence: tobacco in the seventeeth-centuury Dutch republic. *The Journal of the Social History Society*, 20(1), https://doi.org/101080/14780038.2021

Tambe, A. B., Mbanga, B. M. R., Nzefa, D. L., & Nama, M. G. (2019). Pesticide usage and occupational hazards among farmers working in small-scale tomato farms in Cameroon. *Journal of the Egyptian Public Health Association*, *94*(1), https://doi.org/10.1186/s42506-019-0021-x

Thomson, I., Dey, C., & Russell, S. (2015). Activism, arenas and accounts in conflicts over tobacco control. *Accounting, Auditing & Accountability Journal*, *28*(5), 809–845. https://doi.org/10.1108/aaaj-08-2013-1439

Ugah, A. D. (2007). Obstacles of information access and use in developing countries. *Library Philosophy and Practice peer reviewed periodical*, Umuahia, Abia state Nigeria: Michael Okpara university of agriculture.

Uganda Health Communication Alliance (2021). *The big tobacco allies: How tobacco companies use intermediaries to foster their corporate social responsibility initiatives and promote their image in Uganda*. (n.d.). https://atca-africa.org/wp-content/uploads/2021/04/TakeApart-Tobacco-Report-Feb-2021-version-final.pdf

Wipfli, H. & Samet, J. M. (2016). One hundred years in the making: the global tobacco epdemic. *Annual Review Public Health*, 2016(37), 149-66. DOI: 101146/annurev-publication-032315-021850.

WHO | Regional Office for Africa. (2024, July 29). Switching from Tobacco to Beans Farming in Kenya. https://www.afro.who.int/photo-story/switching-tobacco-beans-farming-kenya

World Health Organization (2002). *Draft framework convention to tobacco control international negotiating body on the framework convention on tobacco control,* Fifth session Geneva: World Health Organization

World Health Organization (2002). *The world health organization report 2002: reducing risks, promoting health life*. Geneva: World Health Organization.

World Health Organization (2003). *Tobacco industry and corporate responsibility ... an inherent contradiction. Tobacco Free Initiative*, Geneva: World Health Organization. https://www.who.int/tobacco.

World Health Organization (2004). *Tobacco and poverty: a vicious circle.* Geneva: World Health Organization.

World Health Organization (2008). *Report on the global tobacco epidemic*. Geneva: World Health Organization.

World Health Organization (2017). *Tobacco and its environmental impact: an overview*. Geneva: World Health Organization.

World Health Organization (2019). *Report on the global tobacco epidemic 2019: offer help to quit tobacco use.* Geneva: World Health Organization.

Wresch, W. (1998). Information access in Africa: problem with every channel. *The Information Society,* 14(4), 95-300. DOI: 1080/019722498128746.

Yang, Y., Wang, J.-J., Wang, C.-X., LI, Q., & Yang, G.-H. (2010). Awareness of Tobacco-Related Health Hazards among Adults in China. *Biomedical and Environmental Sciences, 23*(6), 437–444. https://doi.org/10.1016/s0895-3988(11)60004-4

APPENDICES

Appendix I: Interview Schedule for Kuria West Sub-County Tobacco Farmers

I am Jackson Manchare Chacha undertaking a study on access to and use of information on tobacco production health hazards by farmers in Kuria West Sub-county, Migori County, as a requirement for a Master of Information Science degree at Egerton University. I am collecting data to help me complete my research. You have been identified as a respondent for the study. Your responses will be treated with confidentiality. All the findings of the study will be used for the academic purposes only

Section A: Personal Information of the Respondent

Date of Interview …… Name of tobacco farmer (OPTIONAL) ……

Gender……. Age ……..

Section B: Awareness about Tobacco Production Health Hazards

1. I would like to know if you are aware that tobacco production is full of health hazards (Ndatuna manyee o*maangere oboheene iga uburimi bwi irikumbate bokanyahara umurimi)*

   YES ☐ NO ☐

2. If aware how did you come to know that tobacco production possess health hazards *(Niiyake wakorre okamanya igo, iga uburimi boyo bokonyahara)*

   i). Training ☐ i i). Workshop ☐ iii). Government programmes ☐

   iv). Government agricultural extension services ☐ v). Tobacco manufacturing field officers ☐ Documentations ☐). Own Experience ☐

   vii) Others ……

3. I would like you to tell me the health hazards you encounter in tobacco farming (*Ndatuna onteebi orenge umurimi wi irikumbati tantebia ubunyahaariku bono)*

   i). Chemical applications ii). Green Tobacco Sickness

   iii). Second hand smoke ☐ iv). Tobacco Dust ☐

   V). Heat ☐ vi). Hunger ☐

   vii) Others ……

4 a). I would like you to tell me if you know of the symptom for the health hazards (Nteebia o*kamanya mona bore ukuiyigwa ku^{u}bu^{u}nyahariku boyo)*

YES ☐ NO ☐

b). If your answer in Number 4 above is Yes. Kindly list the symptom you know about tobacco farming health hazards (*ndanyore omanyere nteebia ubunyahariku boyo)*

i). poor eye sight ☐ ii). Itching ☐ iii). Stomach pain ☐ iv). Coughing ☐

v). Breathing difficulties ☐ Vi). Vomiting ☐

Vii). Others (headache, poor appetite, weakness) ……

Section C: Sources of Information Tobacco Farmers access on Tobacco Production Health Hazards Information

1. Please, tell me do you access and use tobacco production health hazards information sources *(Hano okahancha nteebia, orasikana na gotomera ameigo ga ubunyahariku bwi irikumbati)* Yes ☐ No ☐
2. As a farmer, what are the information sources for tobacco production health hazards do you access and use to mitigate tobacco production health hazards *(Orenge umurimi, ne hai wamanyeye iga umurimi bwi iriito tebo hai, sooki niiyeke ugwiseemia?)*

   i). Rural Library ☐ ii). Rural Information Resource Centre ☐

   iii).Television Broadcast ☐ iv). Radio Broadcast ☐

   V). Internet. ☐ vi). Government agencies ☐

   Vii). Tobacco manufacturing Companies training ☐

   vii). Informal sources (friends, fellow farmers etc) ☐ viii). No source ☐

3. I would like to know as a tobacco farmer do you experience challenge(s) in accessing tobacco production health hazards information sources *(Ndatuna manyee orange omurimi oranyoria obokong'u hano wanyora oratuna iga ohekere hara amaigio go ubunyahariku bwi iriito borenge)*

   Yes ☐ No ☐

If your answer is Yes kindly list the challenges you face in your effort to access the sources of Information *(Hano ndanyore iga tokohekera hano amaigio gare, gamba obokong'u mbohe hano wanyora oratuna iga ohekere hara amaigio go ubunyahariku bwi iriito garenge)*

4.

i). Lack of awareness ☐ ii). Lack of institutions ☐

iii)Neglect from Government ☐ iv).Financial difficulties ☐

v). Other(s) ……

5. I would like you to tell me how frequently do you access the sources? (Nteebia *Hang'ana hai ukwimanyiria gayo?)*

S/N	Information Sources	Always	Often	Occasionally	Rarely	Never
i	Rural Library					
ii	Rural Information Resource Centre (RIRC)					
iii	Mass media					
iv	Internet					
v	Ministry of agriculture					
vi	Tobacco companies					

6. I would like to know how helpful are the following Information sources you access in dealing with tobacco production health hazards? *(nteebia mbe mona bore ubwimanyiiri boyo bugukwihora nu bunyahariku bwi iriito)*

S/N	Information Sources	Extremely helpful	Very Helpful	Moderately helpful	Slightly helpful	Not at all helpful
i	Rural Library					
ii	RIRC					
iii	Mass media					
iv	Internet					
v	Ministry of agriculture					
vi	Tobacco companies					

Section D: Nature of information accessed on the safety of Tobacco Production

1. As a farmer do you access information on tobacco production health hazards *(orange umurimi orasikana ameigo ga mbunyahariku bwiriito)*

   Yes ☐ No ☐

2. If yes would you tell me to what extent do you agree on the usefulness of tobacco production health hazards information *(Nteebia hang'ana hai uguitaberania nu ubuya bwa ameigo ga ubunyariku bono)*

   i). Strongly agree ☐ ii). Agree ☐ iii). Neutral ☐ iv). Disagree ☐

   v). Strongly disagree ☐

3. I would like you to tell me from whom do you get the support when accessing the health hazards information *(Ndatuna onteebi amiego gano gu ubunyahariku bwi iriito neng'wi akuguturia kunyoora)*

   i). Government ☐

   ii). Tobacco manufacturing companies ☐

   iii). Non-government organizations ☐

   iv). Personal ☐

   v). None ☐

   vi). Please if others please state ……..

   ……..…

4. As a farmer how would you rate the adequacy of tobacco production health hazards information from the following sources *(Orenge umurimi niyeke ubuisani bwa ameigo gu ubunyahariku..)*

   Note: *Very adequate (VA), Adequate (A), Neither adequate nor inadequate (N), Inadequate (I), and Very inadequate (VI)*

S/N	Information Sources	VA	A	N	I	VI
i	Rural Library					
ii	Rural Information Resource Centre					
iii	Mass media					
iv	Internet					

v	Ministry of Agriculture (Extension)					
vi	Tobacco Manufacturing Companies					
vii						

5. How would you rate the effectiveness of the tobacco production health hazards information in promoting safety of tobacco farming
   i). Very effective ☐ ii). Effective ☐ iii). Neutral ☐ iv). Ineffective ☐
   v). Very ineffective ☐

6. I would like you to tell me, as a tobacco farmer do you have difficulties in accessing tobacco production health hazards information (Nteebia orange umurimi wi irikumbati oranyoria obokung'u bwa amaigio go ubunyahariku)
   Yes ☐ No ☐

7. If your answer in number 6 above is yes, please list the challenges that you are faced with. (*Nteebia obokungu boyo mbohai*)
   i). Lack of understanding (science language) ☐
   ii). Lack of telecommunication network ☐
   iii). Economics difficulties ☐
   iv). Education level ☐
   v). Others ……

Section E: Use of Tobacco Production Health Hazard Information

1. As a farmer do you use the information you access on tobacco production health hazards? *(Orenge umurimi wi iriito oratomera ameigo go ubunyahariku)*
   Yes ☐ No ☐

2. As a tobacco farmer, tell me, which of these health hazards information do you use *(nteebia orenge umurimi wi iriito meigo ke ogotomera)*
   i). Pesticide container label information ☐ ii). Tobacco control and legislation ☐
   iii). Tobacco company's information ☐
   iv). Communication from tobacco production stakeholders' information ☐
   v). Tobacco farming information on health policy ☐

3. I would like you to tell me as a farmer how often do you use the health hazards information (*Orenge umurimi hang'ana karengere kei ogotomera amaigio go ubunyahariku)*

   i).Always ☐ ii). Often ☐ iii). Rarely ☐ iv). Less frequently ☐

   V). Never ☐

4. I would like you to tell me as a farmer is the health hazrds information you use adequate enough make you secure *(Gaamba mbe ikibune ke gwisanika)*

   i). Very adequate ☐ ii). Adequate ☐ iii). Neutral ☐ iv. inadequate ☐

   v). Very inadequate ☐

5. Please tell me do you get any support from tobacco industry stakeholders in implementing tobacco production health hazard information (*Nteebia hano ukurusia ubuturia enkaga eno ogotomeera ameigo)*

   Yes ☐ No ☐

Thank you for your time and support.

Appendix II: Questionnaire for Kuria West Sub-County Health Care Professionals (Key Informants)

I am Jackson Manchare Chacha undertaking a study on access to and use of information on tobacco production health hazards by farmers in Kuria West Sub-county, Migori County, as a requirement for a Master of Information Science degree at Egerton University. I am collecting data to help me complete my research. You have been identified as a respondent for the study. Your responses will be treated with confidentiality. All the findings of the study will be used for the academic purposes only

Section A: Personal Information of the Respondent

1. Date of received ……..
2. Name of health care professional (Optional) ……
3. Job designation ……Gender……...
4. Department……....

Section B: Awareness about Tobacco Production Health Hazards

1. As a healthcare professional, are you aware of tobacco production health hazards?
   YES ☐ NO ☐

2. If your response to 1 above is YES, please indicate how you came to know of the health hazards associated with tobacco production
   ……..……
   ……..……
   …….

3. If your answer in 1above is NO, please explain your answer
   ……
   ……
   ……

4. As health professional, do you think that tobacco production health hazards causes illness and diseases to tobacco farmer? YES ☐ NO ☐

5. If your response to 4 above is YES, please list the diseases you know of

   ……..**.....**

   .....

   .....

6. I would like you to list the recognizable symptoms of the diseases caused by tobacco health hazards…….

   ……

   ……..

Section C: Information Sources of Tobacco production Health Hazards

1. Do you know of the source of information from which tobacco farmers can access information about tobacco production health hazards?

   YES ☐ NO ☐

2. If your response to 1 above is YES, please list the sources of information you know off …….

   ……

3. If your response to 1 above is NO, why you think there are no such information sources ……

   ……

   ……..

4. As health care professional, have you ever considered yourself as a useful source of information to tobacco farmers YES ☐ NO ☐

5. If your response to 4 above is YES, please indicate the means through which you have availed the information about tobacco production health hazards

   …….……

   ……..……

   ……..…

6. If your response to 4 above is NO, please explain your answer ……
   ……
   ……

Section D: Nature/ Levels of Health Hazards Information Associated with Tobacco Production

1. Do you think there could be ways farmers can be assisted to be able to manage tobacco production health hazards by their own? YES ☐ NO ☐

2. If your response to No. 1 above is YES, Please specify through which means can these farmers be helped …….
   ……
   ……

3. If your response in 1 above is NO, please give reasons why you think so
   ……
   ……
   ……

4. Have you ever participated in the training of tobacco farmers about the existing of tobacco production health hazards? YES ☐ NO ☐

5. If your response to 4 above is YES, Do you think it was useful to tobacco farmers, please explain your answer ……...
   ……
   ……

6. If your response to 4 above is NO, Please explain your answer …….
   ……..
   ……..

7. As a health professional do you know of the laws that safeguards tobacco farmers from the exposure of the tobacco production health hazards?
   YES ☐ NO ☐

8. If your answer in 7 above is YES, please list these laws ……

……..……

……..……

9. I would like you to tell me who the enforcers of these laws ...……..

……

……....

.....

10. If your response to 7 above is NO, please explain your answer

……...……

…..……..**....**

.....

11. Is there public health policy about tobacco production health hazards

YES ☐ NO ☐

12. If your response to 11 above is YES, explain how you think it is relevant

……

……

……

13. If your response to 11 above is NO, explain or justify your answer.

.....

.....

.....

Section E: Use of tobacco Production Health Hazards Information

1. As a health care professional do you use tobacco production health hazards information? YES ☐ NO ☐

2. If your response to 1 above is YES, please how do you rate its usefulness

Very useful ☐ Useful ☐ Neutral ☐ Not useful ☐

Very un useful ☐

3. If your response to 1 above is NO, Please explain your answer. .....
   .....
   .....

4. I would like to know as a health professional do you think tobacco farmers use tobacco production health hazards information responsibly, please explain
   YES ☐ NO ☐

5. I would like you to list a part from you, who else give tobacco production health hazards information to tobacco farmers to use, please list them down
   .....
   .....
   .....

6. How do you rate the frequency of occurrence of tobacco related diseases among the tobacco farmers
   Very high ☐ High ☐ Neutral ☐ Low ☐ Very low ☐

Thank you for your time and support.

Appendix III: Corrected Proposal

EGERTON
Tel: Pilot: 254-51-2217620
254-51-2217877
254-51-2217631
Dir.line/Fax: 254-51-2217847
Cell Phone
Extension; 3606

UNIVERSITY
P.O. Box 536 - 20115
Egerton, Njoro, Kenya
Email: bpgs@egerton.ac.ke
www.egerton.ac.ke

OFFICE OF THE DIRECTOR GRADUATE SCHOOL

Ref:...AM22/33520/14 Date:.....8th Oct., 2018.

Mr. Jackson Manchare Chacha
Dept. of LLL
Egerton University
P. O. Box 536
EGERTON

Dear Mr. Chacha,

RE: CORRECTED PROPOSAL

This is to acknowledge receipt of two copies of your corrected proposal, entitled **"Access to and Use of Information on Tobacco Production Health Hazards by Farmers in Kuria West Sub-County. Migori County, Kenya."**

You are now at liberty to commence your fieldwork. However note the following:

1. You must register each semester
2. Pay your fees every semester
3. Submit progress reports every four (4) months (Masters) or six (6) months (PHDs). Without this, your thesis/project will not be accepted. Forms are available at the Board
4. You are expected to publish one (1) paper (Masters) or two (2) papers (PhD) in peer-reviewed journal and present them before issuance of "Intent to submit Thesis/Project" forms by the board.

Thank you.

Yours sincerely,

DIRECTOR, BOARD OF POST GRADUATE STUDIES * EGERTON UNIVERSITY P.O. Box 536-20115 EGERTON * 08 OCT 2018

Prof. Nzula Kitaka
DIRECTOR, BOARD OF POSTGRADUATE STUDIES

c.c. Supervisors
COD, LLL
Dean, FASS

NK/ear

Appendix IV: Request for Research Permit

EGERTON
Tel: Pilot: 254-51-2217620
254-51-2217877
254-51-2217631
Dir.line/Fax: 254-51-2217847
Cell Phone
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Egerton, Njoro, Kenya
Email: bpgs@egerton.ac.ke
www.egerton.ac.ke

OFFICE OF THE DIRECTOR GRADUATE SCHOOL

Ref:...AM22/33520/14

Date:...9th October, 2018.....

The Secretary,
National Commission for Science Technology and Innovation
P. O. Box 30623-00100,
NAIROBI.

Dear Sir,

RE: REQUEST FOR RESEARCH PERMIT – JACKSON MANCHARE CHACHA REG.NO. AM22/33520/14

This is to introduce and confirm to you that the above named student is in the Department of Literature, Languages and Linguistics, Faculty of Arts and Social Sciences , Egerton University.

He is a bonafide registered Masters student in this University. His research topic is entitled **"Access to and Use of Information on Tobacco Production Health Hazards by Farmers in Kuria West Sub-County. Migori County, Kenya."**

He is at the stage of collecting field data. Please issue him with a research permit to enable him undertake the studies.

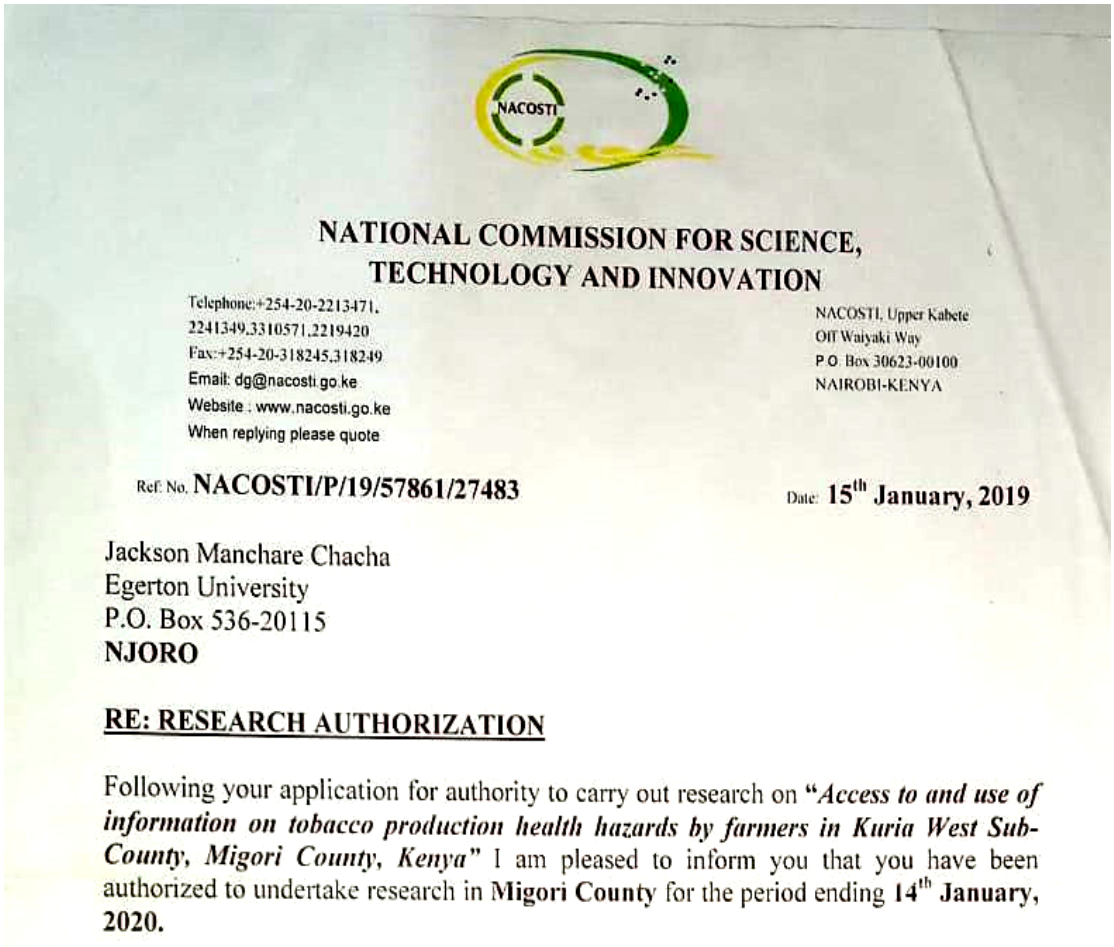
Yours faithfully,

DIRECTOR Board of POST GRADUATE STUDIES
09 OCT 2018
EGERTON UNIVERSITY

Prof. Nzula Kitaka
DIRECTOR, BOARD OF POSTGRADUATE STUDIES

NK/ear

Appendix V: Research Authorization



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone:+254-20-2213471,
2241349,3310571,2219420
Fax:+254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/19/57861/27483**

Date: **15th January, 2019**

Jackson Manchare Chacha
Egerton University
P.O. Box 536-20115
NJORO

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Access to and use of information on tobacco production health hazards by farmers in Kuria West Sub-County, Migori County, Kenya"*** I am pleased to inform you that you have been authorized to undertake research in **Migori County** for the period ending **14th January, 2020.**

You are advised to report to **the County Commissioner and the County Director of Education, Migori County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

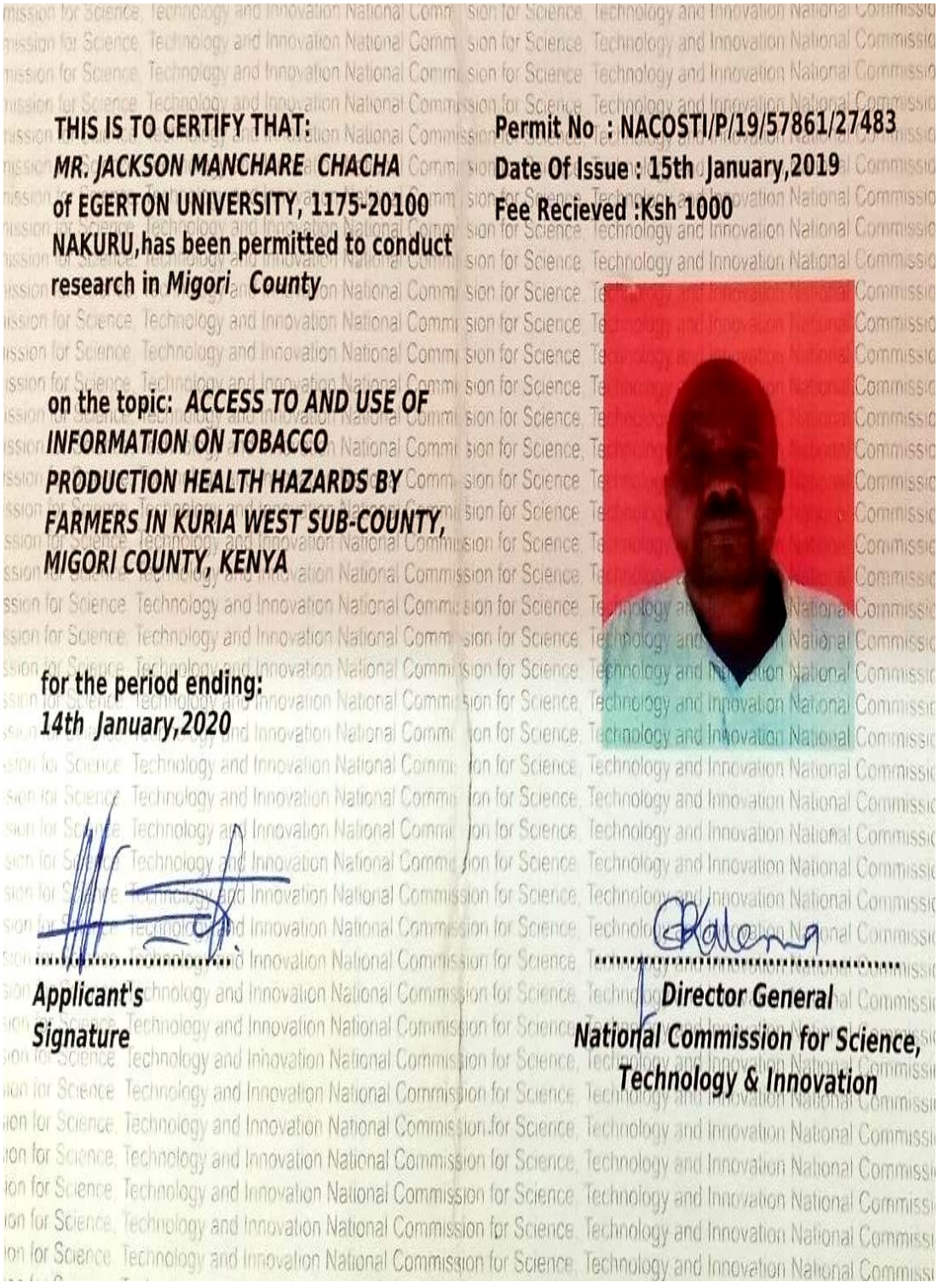
GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Migori County.

The County Director of Education
Migori County.

Appendix VI: Research License



THIS IS TO CERTIFY THAT:
MR. JACKSON MANCHARE CHACHA
of EGERTON UNIVERSITY, 1175-20100
NAKURU,has been permitted to conduct
research in *Migori County*

Permit No : NACOSTI/P/19/57861/27483
Date Of Issue : 15th January,2019
Fee Recieved :Ksh 1000

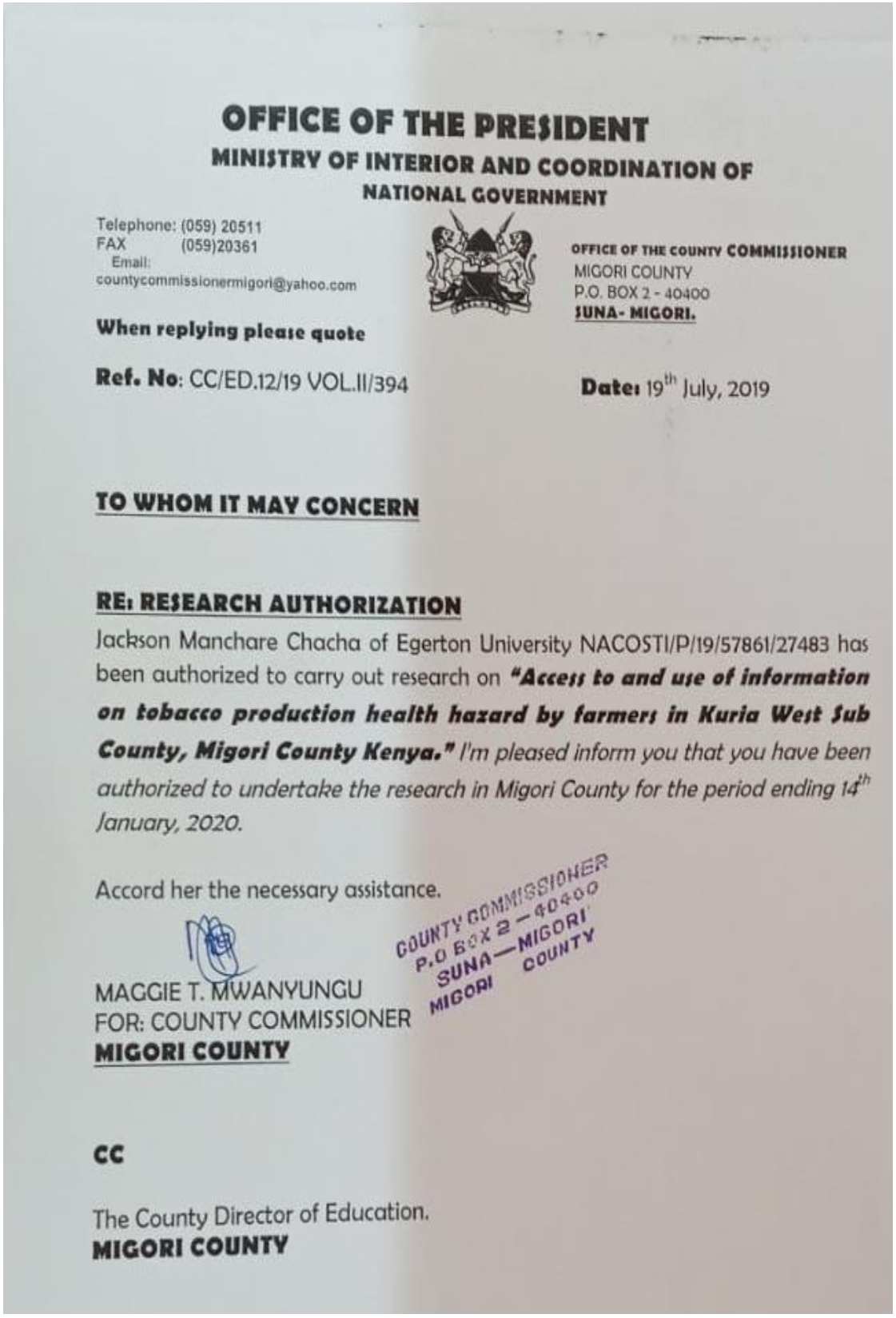
on the topic: *ACCESS TO AND USE OF INFORMATION ON TOBACCO PRODUCTION HEALTH HAZARDS BY FARMERS IN KURIA WEST SUB-COUNTY, MIGORI COUNTY, KENYA*

for the period ending:
14th January,2020

.....
Applicant's Signature

.....
Director General
National Commission for Science, Technology & Innovation

Appendix VII: Office of the President Research Authorization



OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Telephone: (059) 20511
FAX (059)20361
Email:
countycommissionermigori@yahoo.com

OFFICE OF THE COUNTY COMMISSIONER
MIGORI COUNTY
P.O. BOX 2 - 40400
SUNA- MIGORI.

When replying please quote

Ref. No: CC/ED.12/19 VOL.II/394

Date: 19th July, 2019

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION

Jackson Manchare Chacha of Egerton University NACOSTI/P/19/57861/27483 has been authorized to carry out research on ***"Access to and use of information on tobacco production health hazard by farmers in Kuria West Sub County, Migori County Kenya."*** *I'm pleased inform you that you have been authorized to undertake the research in Migori County for the period ending 14th January, 2020.*

Accord her the necessary assistance.

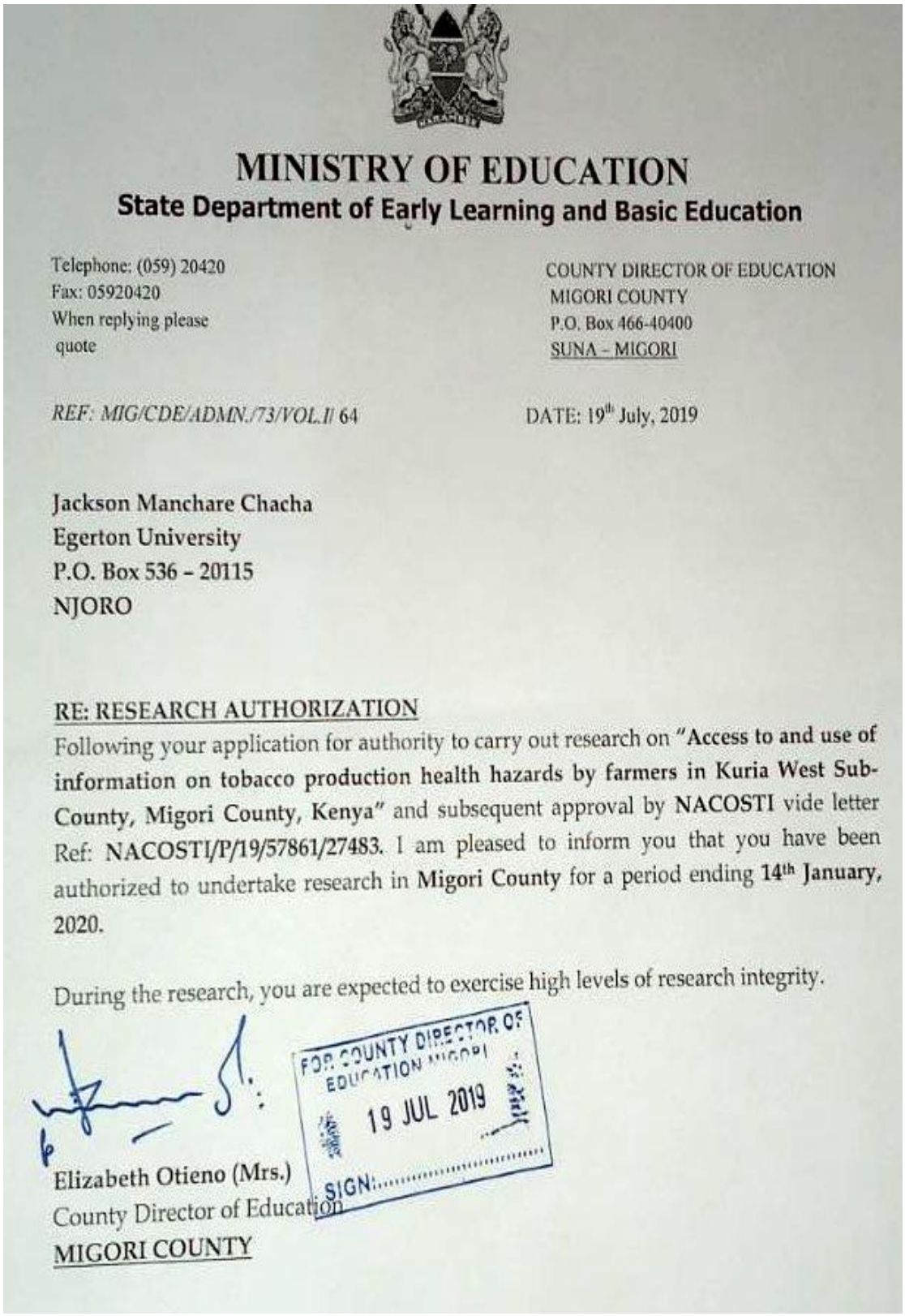
COUNTY COMMISSIONER
P.O BOX 2 – 40400
SUNA—MIGORI
MIGORI COUNTY

MAGGIE T. MWANYUNGU
FOR: COUNTY COMMISSIONER
MIGORI COUNTY

CC

The County Director of Education.
MIGORI COUNTY

Appendix VIII: Ministry of Education Research Authorization



MINISTRY OF EDUCATION

State Department of Early Learning and Basic Education

Telephone: (059) 20420
Fax: 05920420
When replying please quote

COUNTY DIRECTOR OF EDUCATION
MIGORI COUNTY
P.O. Box 466-40400
SUNA – MIGORI

REF: MIG/CDE/ADMN./73/VOL.I/ 64

DATE: 19th July, 2019

Jackson Manchare Chacha
Egerton University
P.O. Box 536 – 20115
NJORO

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on **"Access to and use of information on tobacco production health hazards by farmers in Kuria West Sub-County, Migori County, Kenya"** and subsequent approval by **NACOSTI** vide letter Ref: **NACOSTI/P/19/57861/27483.** I am pleased to inform you that you have been authorized to undertake research in **Migori County** for a period ending **14th January, 2020.**

During the research, you are expected to exercise high levels of research integrity.

FOR COUNTY DIRECTOR OF EDUCATION MIGORI
19 JUL 2019
SIGN:.....

Elizabeth Otieno (Mrs.)
County Director of Education
MIGORI COUNTY

Appendix IX: Abstract of Published Section of the Thesis

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Access to and use of Tobacco Production Health Hazard Information Sources by Tobacco Farmers in Kuria West Sub – County, Migori County, Kenya

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Abstract

Tobacco production poses serious dangers to tobacco farmers especially in developing countries. Previous studies have shown that tobacco production activities continue to expose tobacco farmers to health risk. This study examines sources of health hazard information that tobacco farmers in Kuria West Sub- County of Migori County, Kenya access and use in an effort to protect themselves. The data was collected from a sample size of 100 tobacco farmers and 41 key informants. A representative sample was chosen from the four selected wards of Kuria West Sub-County. Software Packages for Social Sciences (SPSS) was used to analyse data. A major finding was that majority of tobacco farmers used various sources of information whose adequacy about potential risks associated with the crop farming remained a challenge. The paper concludes that, the sources of information that tobacco farmers relied on are unreliable and not trustworthy. The study recommends the establishment of Non- partisan organisations to train and disseminate relevant information on health hazards to tobacco farmers.

Keywords: Access, Health Hazards Information, Kenya, Kuria West, Tobacco Farmers, Use