

**BARRIERS TO COMMUNICATION ON FAMILY PLANNING BETWEEN
SCIENTISTS AND THE ROMAN CATHOLIC CHURCH IN
TURKANA COUNTY, KENYA**

BY

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THE AWARD OF A DEGREE OF MASTER OF ARTS IN
RELIGIOUS STUDIES**

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DECLARATIONS

Declaration by the Candidate

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DEDICATION

For Bill

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ABSTRACT

Science and religion address threats facing humanity. However, the two are perceived to be in conflict especially on matters of health. A case in point is the use of artificial FP (AFP) methods which are supported by scientists. The Roman Catholic Church (RCC) on the other hand advocates for natural FP (NFP) only. Such differences cause confusion to the public. The main purpose of this study was to investigate barriers to communication between scientists and the RCC on the subject of FP in Turkana County, Kenya. The specific objectives were: first, to explore ways in which scientists and RCC in Turkana County communicate on the subject of FP ; second, to establish areas of controversy between scientists and RCC on FP ; and third, to investigate barriers to communication on FP between scientists and RCC in Turkana County. The study is of significance to health policy makers and RCC in addressing hostilities, controversies, and conflicts surrounding FP and other health matters. The Functionalist Theory of Religion, Influence of Presumed Media Influence (IPMI) Theory, and Dialogue Model guided this study. The study adopted a cross-sectional exploratory design. The approach was qualitative. A sample population of thirty-two comprising scientists and RCC faithful was purposely selected. In-depth interviews were conducted with four RCC clergy and four scientists. Three Focus Group Discussions (FGDs) were conducted with twenty-four RCC lay members. Raw data from key informants and FGDs were coded, classified and categorised to allow for thematic analysis to arrive at findings and conclusions in line with the study objectives. The major findings were that there are no forums for engagement between scientists and RCC on such topics as health hence scientists and the RCC hardly communicate on FP. Further, findings suggest that although scientists are expected to disseminate research findings to the public, scientists are not effectively trained on science communication. The study recommends that avenues of communication between scientists and RCC on topics such as FP be established. It also urges that scientists be trained on science communication.

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OPERATIONAL DEFINITION OF TERMS

Artificial family planning: those methods which prevent conception by application of any mechanical chemical surgical and pharmaceutical methods.

Family planning: is the deliberate alteration of the number and spacing of children by clients.

Mass media: radio, television and posters.

Natural family planning: a birth control measure that uses bodily changes to identify when a woman is fertile and hence can avoid pregnancy

Roman Catholic Church: the catholic faithful.

Science communication: dissemination of science- related information by scientists to the lay public.

Scientists: health care and health research experts including; doctors, nurses and clinical researchers.

ABBREVIATIONS AND ACRONYMS

AFP	- Artificial Family Planning
AIDS	- Acquired Immunodeficiency Syndrome
APHRC	- African Population and Health Research Center
ARVs	- Antiretroviral
ASAL	- Arid and Semi-Arid Lands
BCC	- Behaviour Change Communication
CHCK	- Catholic Health Commission of Kenya
CIP	- Costed Implementation Plan
CSAK	- Christian and Scientific Association of Kenya
DSW	- Deutsche Stiftung Weltbevoelkerung
FP	- Family Planning
GMO	- Genetically Modified Foods
HCG	- Human Chorionic Gonadotropin
HIV	- Human Immunodeficiency Virus
ICPD	- International Conference on Population and Development
IPMI	- Influence of Presumed Media Influence
IUD	- Intrauterine Device
KCCB	- Kenya Conference of Catholic Bishops
KCDA	- Kenya Catholic Doctors Association
KDHS	- Kenya Demographic Health Survey
KHP	- Kenya Health Policy
KHSSP	- Kenya Health Sector Strategic Plan
KNBS	- Kenya National Bureau of Statistics
MOH	- Ministry of Health
MTRH	- Moi Teaching and Referral Hospital
NACOSTI	- National Commission for Science Technology and Innovations

NCPD	- National Council for Population and Development
NFP	- Natural Family Planning
NGOs	- Non-Governmental Organizations
OD	- Open Defecation
RCC	- Roman Catholic Church
RNS	- Religion News Service
SAASTA	- South African Agency for Science and Technology Advancement
SDGs	- Sustainable Development Goals
SBCC	- Social and Behaviour Change Communication
SMART	- Standardized monitoring and Assessment of Relief and Transitions
SSA	- Sub-Saharan Africa
UHC	- Universal Health Coverage
UNESCO	- United Nations Education Scientific and Cultural Organization
UNICEF	- United Nation Children's Fund
WHO	- World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Science and religion are concerned with generation of knowledge for human welfare and development. Although the two disciplines work towards alleviating human suffering and improving human life, both have developed and claimed legitimacy to different stands which have been viewed as conflicting. Harrison (2015), alludes this dichotomy to the propositional content of the two enterprises and the methods or modes of knowledge that generate those propositions.

The world has witnessed unprecedented levels of development, thanks to innovation in science and technology. Scientific and technological developments have made life more comfortable and enjoyable. Macharia (2009: 133), notes that, “the modern technological innovations have changed the world to an extent that those who lived in the 19th century in Africa would be very confused if they came back to life today.” However, such developments which pervade all dimensions of human life, have raised the ultimate questions –questions about the underlying nature of reality, the cause of the universe, the meaning of life and even about morality. Of interest is the debate on the relationship between science and religion, two domains considered to be key sources of knowledge.

Polkinghorne (2005) argues that science gives us knowledge but technology utilises this knowledge to do things not previously thought to be possible. More developments are being witnessed in the medical sphere, for instance use of norplant for FP. The Roman Catholic Church (hereafter referred to as the Catholic Church) has cited ethical and theological issues associated with FP and interpreted such acts as playing God. Consequently, the Church has responded negatively to such developments by issuing

statements advising their congregants worldwide not to yield to such practices. The outcome is the throwing of the populace into the dilemma of choosing between their faith and science.

Conducting research is an expensive enterprise to both the researcher and financier; it is disheartening when research results are dismissed by potential consumers. In Kenya, the Science, Technology and Innovation Act passed in 2013, created a National Research Fund and also made provisions for the fund to receive 2% of Kenya's GDP each financial year (UNESCO Science Report: Towards 2030, 2015). In some cases, the findings of research may face opposition from some people because of conflicting with their cultures. Consequently, some religious based organizations have responded negatively to modern developments in the field of science and technology, such as artificial methods of FP. Of specific concern to this study is the Catholic Church which has opposed the use of AFP terming it an immoral practise therefore against God's plan. A gap of communication exists between scientists and religious practitioners on the subject of FP. It seems the Catholic Church strongly advocates for NFP, while scientists champion for artificial methods.

Polkinghorne (2005) elucidates that, in order to develop the ability to make right decisions about the use of scientific and technology innovations, one might wish to gain some help from religion since faith traditions are reservoirs of experience and wise insight in relation to questions of ethical decisions, accumulated over centuries. He points out that, religions have to recognize moral dilemmas brought forth by modern science. It can be argued that, since scientists are at the fore in conducting research, they should also lead in communicating results to the public. In so doing, since both science and religion pervade human life, synergetic relations between the two need to be fostered through addressing the barriers existing between them.

Sweetman (2009) observes that, research work in a variety of scientific disciplines raises questions that have relevance for religion, especially as we try to understand important facts, for example about the universe, human beings and morality. The progress of any society begins with a healthy debate on the subject at hand amongst the stake holders. An assumption is made that, scientists and the public link through media. However, the media poses a challenge of misinformation of scientific facts. The foregoing is necessitated by inadequate or lack of skills by reporters to communicate scientific matters to the public. It is hoped that, communication of new aspects of development especially on technology matters is largely dependent on knowledge held by the people, attitudes and their practices. An assumption is made that, the ability of people to communicate information is determined by factors such as culture, their religious beliefs, social economic class, and geographic locations (Machariah, 2009). The present scenario in Kenya demanded a study into the barriers between science and religion, especially on matters of health through proper communication in order for both to be beneficial to consumers.

1.2 Statement of the Problem

Conflict between the Catholic Church and science is manifested in the public domain in Kenya. In 2014, the Government of Kenya had kicked off a vaccination campaign programme against tetanus. Later in 2019, the government through its Ministry of Health (MoH) began a mass vaccination of adolescent girls, free of charge, against human papilloma virus (HPV) which causes cervical cancer. The foregoing incidents sparked controversies between the government and the Catholic Church, with the latter advising its faithful to stay away from the vaccination programme (RNS, 2014). The Roman Catholic Church cited safety issues about these vaccines and cautioned the government against the side effects associated with them. In so doing, the Catholic

Church has always discouraged the Catholic faithful from accessing some vaccines. The Church alleged that the government had secret plans of subjecting women to non-consent birth control by use of vaccines that contained Human Chorionic Gonadotropin (HCG) hormone. Consequently, many of those targeted (girls and women of between 15 and 49 years) were not vaccinated despite the World Health Organization (WHO) and United Nations International Children's Emergency Fund (UNICEF) issuing a joint statement on the safety of the tetanus vaccine (Mandlhate, & Heinonen, 2014). Interestingly, despite the COVID-19 threat, the Association for Catholic Information in Africa (2021) in conjunction with the Kenya Catholic Doctors Association (KCDA) issued a statement to oppose the COVID-19 vaccination terming it "unnecessary, absolutely and extremely dangerous".

The foregoing cases indicate a huge gap between the Catholic Church and scientists in Kenya. It seems little has been done to bridge the gap. Why is it that there are differences in those positions on the same matter? Could it be a case of communication breakdown, or outright lack of communication between scientists and religious authorities such as RCC on policies and approaches aimed at addressing health matters? The continued viewing of each other with suspicion has thrown the populace into confusion and eventual rejection of scientific findings. In Turkana District (Turkana County presently) specifically the acceptance of FP is very low due to cultural intolerance and religious organizations such as Catholic Church which do not promote contraceptive use (Maulana, 2008). This study set to fill the gap by establishing barriers to communication on FP between scientists and the RCC in the specific case of Turkana County, Kenya.

1.3 Aim and Objectives of the Study

The overall aim of this research was to investigate barriers to effective communication between scientists and RCC in Turkana County, Kenya, with respect to FP in a bid to contribute new knowledge on how to foster dialogue between science and religion.

The specific objectives set to guide this study included are:

- i) To explore ways in which scientists and the RCC communicate on science issues in Turkana County
- ii) To establish areas of controversy between scientists and the RCC on FP in Turkana County
- iii) To investigate barriers to communication between scientists and RCC in Turkana County with respect to FP

1.4 Research Questions

This study aimed at answering the following research questions.

- i) How do scientists and the RCC in Turkana County communicate on issues of science?
- ii) What are the areas of controversy between scientists and RCC with respect to FP in Turkana County?
- iii) What are the barriers to communication between scientists and RCC in Turkana County on FP?

1.5 Justification of the Study

Scientists and the RCC have been involved in conflicts with regard to FP in Kenya. Various FP methods such as the use of condoms, norplant and injections have been discouraged by the RCC. The Church has led the rejection and low uptake of scientific findings by the public. On the other hand, the media has contributed to the uptake of

scientific information. The gap of communication requires scientists to reach out and explain their research findings to the public so as to demystify controversies associated with them. The foregoing study argues for development of communication in science in order to promote the understanding between science and dialogue religion.

FP in Kenya remains a subject of controversy between scientists and the RCC. The study investigated the barriers to effective communication between scientists and RCC in Turkana County, Kenya on the subject of FP. This study proposes appropriate suggestions on how to address these barriers and contribute to informed choices for development by the public as well as fostering dialogue between science and religion.

1.6 Significance of the Study

The health sector in Kenya has been an area of concern to the government, health providers, the Church and the society at large. Despite this, the challenge of disparities and hostilities between the stakeholders still hampers the efforts towards providing quality FP services which threatens the health of those under the programme. This research is useful in unearthing the areas of controversy, explores ways in which scientists communicate to the Church on the topic of FP and the barriers that curtail the communication. It was noted that, unlike the developed world, such as Europe and United States of America, where science communication and literacy levels are high; Sub-Saharan Africa to which Kenya falls under has underdeveloped science communication. This study contributes to dialogue between science and religion. The results of the research are not only important to scientists and RCC, but also to lay persons in need of FP services. The study was geared towards contributing to Kenya's effort of attaining Universal Health Coverage which is part of the government's Big Four Agenda (Mvurya, 2020).

1.7 Assumptions of the Study

This study assumed that there are communication barriers existing between scientists and RCC which have been responsible for the gap and the controversies between the two domains of knowledge. Furthermore, the researcher assumed that barriers to communication witnessed between the scientists and RCC are due to miscommunication between the two domains. We envisage that these may be narrowed if the two can dialogue. Basing on the ethical considerations of confidentiality and anonymity of participants involved in the study, the researcher assumed that they will give honest responses which will maximize truthfulness of the study.

1.8 Literature Review

1.8.1 Science communication

Lucky (2000) writes that communication has always been the circulatory system of science, if not its heartbeat. The foregoing is justified through the notion that scientists and the public link up through communication. Science communication aims at building bridges between expert and non-expert communities (Zamxaka, 2013). Over time scientists are at the forefront in making scientific advancements that are impacting all sectors of human life by making life more comfortable. However, knowledge of science can as well be tapped for destructive purposes such as production of weapons of mass destruction and contribution to global warming.

According to Zamxaka, Science as a field;

is always changing, transforming and developing..... information or misinformation can aid or hinder this process...understanding science can lead to the advancement of science for the better (Zamxaka, 2013: p10)

This implies that science is constantly researching. In the process yields results that may be valuable. Findings of a single research serve as a base to future related

knowledge. Communication is an accompanying component that plays the role of disseminating the results to the public.

Burns, O`Connor and Stocklmayer (2003) define science communication as, the use of appropriate skills, media, activities, and dialogue to promote science (the AEIOU vowel analogy): awareness, enjoyment, interest, opinion-forming and understanding. The lay public have a right to be informed of new scientific knowledge so as to be part of decision makers. This trajectory challenges the traditional top-down flow of scientific information from scientists to the public through active engagement in generation of new knowledge for universal acceptance. While commenting on flow of scientific information, Burns, Shlozman and Verba (2009), argue that, anytime public engagement is defined, perceived and implemented as a top-down persuasion campaign, then the public trust is put at risk. The tendency by the lay public to reject scientific advancements is likely to be high when they are not involved.

Macharia (2009) notes that the basic elements of any communication process are: the sender (source), message, channel/medium, receiver and feedback. This is backed up by the work of Burns *et al.* (2009) who note that science communication entails the scientist as the source, scientific content/knowledge, the media as the channel, the public as the receiver and the response elicited from the public which can be either acceptance, or rejection. Breakdown in the flow of information is likely to happen in any of the stages. The breakdown of communication of information is dependent on factors such as cultural-religious beliefs, knowledge levels and the attitude held by the people (Macharia, 2009). Macharia's work is also in tandem with Wynne (1992) who argues that many members of the public hold science-related debates basing on personal experience, culture, or conventional wisdom.

Kahan (2013) postulates that, inattention of scientists to the quality of the science communication leaves vaccines vulnerable to controversy. The author observed that partisan media or non-expert groups influence the perception of people into accepting or rejecting scientific programmes such as vaccination. He further observes that “evidence-informed risk communication strategies are essential to identify and counteract any influence that could cause ungrounded fears of vaccines to spread to the general public” (Kahan, 2013: 54). This author identified the gap left by scientists which is responsible for controversies.

Bubela *et al.* (2009) wrote that any scientific communication efforts need to be based on a systematic empirical understanding of an intended audience, existing values, knowledge, attitudes, their interpersonal and social contexts plus their preferred media sources and communication channels. It can be argued that direct imposition of new practices that are in contrast to those held by a people can be catastrophic. Therefore, prevailing socio-cultural practices of a people that have defined their life ought to be considered. Without this, the new practices may be considered an insult to theirs hence total rejection.

One can detect a growing recognition that effective communication requires initiatives that sponsor dialogue, trust, relationships and public participation across a diversity of social settings and media platforms (Bubela *et al.*, 2009). Bubela *et al.*, (2009) do not subscribe to the school of thought that regards deficits in public knowledge as central culprit driving societal conflict over science since its literacy has a limited role to play in shaping public perceptions and decisions. Through history, the relationship between science and religion has been that of suspicion and mistrust that culminates into

controversies and conflict over science-related issues probably due to miscommunication.

The public science literacy is low because majority of Sub Saharan Africa universities have not incorporated science communication as a course hence widening the gap of knowledge between scientists and the lay public. Warren, D. R., Weiss, M. S., Wolfe, D. W., Friedlander, B., and Lewenstein, B. (2007) write that there is an increased recognition by scientists, stakeholders and policy-makers that Scientists need to get their message out. They need training to learn how to do so and training should begin at the graduate level.

However, historically, once a science-related content is released to the public in Africa, the topic largely becomes owned by the media leading to the loss of control by scientists over it. The researcher concurred with some of these literatures on science communication and identified the need to explore communication between the RCC and scientists on FP as proposed by this study.

1.8.2 Family planning

The 2010 Kenya Constitution guarantees the rights of an individual to the highest attainable standard of health, including reproductive health such as FP services (DSW, 2014). This is echoed by the global partnership, FP 2020 (FP 2020) which advocates for the right of women and girls to decide freely, and for themselves on, whether, when, and how many children they want to have. According to Nakiboneka & Maniple (2008), clients can use either artificial FP (AFP) or natural FP (NFP) methods but none is 100% effective.

According to KDHS (2014), information on fertility preferences is of considerable importance to FP programmes as it allows planners to assess the need for contraception

to promote spacing or limiting of births. A report by DSW (2014) shows that, inadequate information on FP methods or the source of a method negatively affects FP efforts by patients seeking treatment in Africa. The foregoing is attributed to the shortage of personnel in health centres to offer FP services.

1.8.3 Need for FP

The need for FP is necessitated by the high number of women who want to stop childbearing, or want to space their next birth (KDHS, 2014). This rationale seems to tally with the call for increased rights for women in which the determination of the number and spacing of children through FP serves as a fulfilment. As Berer (2014) aptly puts it;

Having fewer children and being able to decide whether and when to have them has opened up new worlds for women, in terms of being able to participate more fully as citizens in their countries' affairs and to seek education and employment on an equal par with men. (Berer 2014, p, 10).

Historically, African societies have been patriarchal but are currently experiencing a paradigm shift towards having equal rights with men in all sectors of human life. Berer (2014) challenges women that decisions surrounding FP are areas too where women can exercise and enjoy that right.

FP reduces unintended pregnancies and unsafe abortions (Kosimbei & Koronya, 2017). This claim is further corroborated by WHO (2014) which maintains that, FP prevent risks associated with pregnancy complications and unsafe abortions.

FP intends to improve economic backgrounds of many families as it promotes small families that are economically sustainable (DSW, 2014). An assumption is made that having smaller families allows parents to invest more in each child, because children with fewer siblings school longer than those with many siblings (WHO, 2014).

It can be noted that Kenya's population grew at a faster rate between the years 2000 to 2010 than economic indicators (CIP, 2012). A report by KNBS (2010) indicates that, Kenya's population in 2009 was 38.6 million while that of 2016 was 46 million with a projection of 52.2 million people by the year 2020. Such a pattern is likely to threaten maternal newborn health gains that were realized in the past and this likely poses a big obstacle to achievement of Sustainable Development Goals (SDGs) and Vision 2030. An assumption is made that, use of contraceptives has positive health benefits as they prevent unintended pregnancies hence decrease in maternal morbidity and mortality (WHO, 2014). The goal of NCPD according to Owino, *et al*, (2017), is for Kenya to attain a high quality of life by managing population growth to a level that the country's resources can sustain. Rapid population growth rate and a youthful population structure are key issues which, if poorly managed pose challenges in the realization of Vision 2030. In Kenya, the youth comprise the highest population group (Population Pyramid Estimation, 2016). As a measure to the high growth rate, FP is key. The foregoing can reduce resulting negative impacts on the economy, environment, national and regional development efforts (WHO 2014).

Averagely, the use of contraceptives in Sub Saharan Africa prevents more than 557,000 unintended pregnancies to HIV-infected women each year (WHO, 2014). Majorly, it has been established that the use of male and female condoms is a means to achieving this contraception hence protecting many from getting unintended pregnancies.

History is awash with cases of unethical research and abuse of science and this calls for checks and balances to bring it under control. The Church has traditionally been regarded as the conscience of society as it cautions its faithful against using specific scientific and technological practices. It is critical therefore that, scientists effectively communicate with the Church on various scientific and technological knowledge and

innovations in order to promote uptake of scientific findings. This study sought to establish if such communications exist and what barriers scientists and the RCC face in this communication.

1.8.4 The Roman Catholic Church (RCC) and use of FP

It is important to note that the Roman Catholic Church is not against birth control and spacing of children. This is clear from *Humanae Vitae* (1968). In the writings of Pope Paul VI (1968), we quote in part:

The changes that have taken place are of considerable importance and varied in nature. In the first place there is the rapid increase in population which has made many fear that world population is going to grow faster than available resources, with the consequence that many families and developing countries would be faced with greater hardships. This can easily induce public authorities to be tempted to take even harsher measures to avert this danger. There is also the fact that not only working and housing conditions but the greater demands both in the economic and educational field pose a living situation in which it is frequently difficult these days to provide properly for a large family (Pope Paul VI, 1968).

Pope Paul VI's statement that the authorities would respond to the fast-increasing population by taking harsh measures was evident in Uganda. The Ugandan government adopted and seriously promotes the artificial methods of FP (Nakiboneka & Maniple, 2008). On the other hand, the Roman Catholic Church, a major partner in health care delivery and development in Uganda, insists on the use of natural FP methods by its adherents and in its health units (ibid). The Roman Catholic Church (RCC) opposes AFP methods on fundamental grounds of the onset of life and the purpose of sexual union (Nakiboneka & Maniple, 2008).

LeMaire (2016) writes that the official position of the Roman Catholic Church has for a long time been that opposing artificial methods of FP such as condoms and other barrier methods, contraceptive pills, patches and injections or implants, intrauterine devices and sterilization both male and female. In response, the proponents of AFP have

accused the RCC of being inconsiderate of the new challenges facing humanity, such as the spread of HIV/AIDS.

Consequently, the Catholics for Choice (2008) maintain that:

Despite scientific evidence that condoms are a critical tool in AIDS-prevention efforts, the Vatican has refused to relax the ban on contraceptives and has spread disinformation about the effectiveness of condoms that undercut many national efforts to promote condom use. Much like its stance on family planning, it claims that abstinence is the only way to avoid AIDS and aggressively promotes this position... (Catholics for Choice, 2008, 12).

In reality, slaying the dragon of HIV/AIDS using abstinence may not be effective especially in Africa where “there are significant power discrepancies between men and women on matters of sex, even if women suspect their partners to be unfaithful” (Catholics for Choice, 2008:12).

Nakiboneka and Maniple (2008) observe that:

FP use varies according to religion or cultural values, myths, knowledge, promotion and marketing, effectiveness of the method, marital status, sex, age, policies, social and economic factors, as well as the attitudes of clients and providers (Nakiboneka & Maniple, 2008:127).

The above observation points to several factors contributing to adoption or rejection of FP with certain degree. These variables can be manipulated so as to cause desired behaviour from targeted users.

RCC advocates for NFP, “as the only genuine, legitimate and recommendable method of birth control because it does not interfere with transmission of life” (Nakiboneka & Maniple, 2008: 127). In NFP methods, a woman uses ovulation patterns to avoid pregnancy. The NFP methods recognized by RCC include; rhythm or calendar method, basal body temperature (BBT) method, cervical mucus/billing method, and symptom-terminal method. NFP methods have no side effects, no health risks and they are

inexpensive. However, these methods are not recommended for women with irregular menstrual cycles and they do not protect against transmission of STIs such as HIV. LeMaire (2016) argues that although NFP might work well when practised by educated and dedicated couples, these methods have a high failure rate hence less ideal for Africa.

In their study, Nakiboneka and Maniple, (2008) note that, the Church does not come out strongly to initiate, support and facilitate the use of NFP. Generally, complexity of NFP methods is a challenge to many users. It is a wake-up call to the church to aggressively support birth control through NFP by initiating public education on NFP methods and providing training to members on how to use those methods effectively, a task that involves dissemination challenges due to cultural issues in Africa. This lays an upper hand on AFP methods such as vasectomy, female sterilization, intrauterine device (IUD). These methods are perceived as the most effective and easiest to use than traditional methods aforementioned.

The RCC position on FP, has not received massive support from some of its top hierarchy leadership and followers. Surprisingly, most Catholic faithful around the world support the use of condoms as pro-life because it prevents the spread of HIV/AIDS (Catholics for Choice, 2008). According to them, some Catholic faithful using modern contraceptives, believe it is a moral choice to do so. This conflicts them with the Catholic leadership, forcing the clergy into silence on this. The rationale of condom use as a moral choice seems to gain acceptance within the hierarchy of the church. This is because it is within the rights of individuals to make such decisions as would be shown in Chapter Four of this study. It is against this background that one would be interested in establishing how dialogue between scientists and the RCC may be promoted for uptake of ethical scientific research findings and innovations.

1.8.5 Role of the media in dissemination of scientific information

Mass media stands between the source and the target of any information during dissemination of information from scientists to the public. In relaying information, the media breaks information to make it appealing and meaningful to the intended audience. The media are seen as intermediaries between science and the public; they create public conscience about science-related events (Nelkin, 2001, Lugalambi & Nyabuga 2011).

Caulfield (2004) suggests that the media can have a profound impact on how the public views the risks and benefits of scientific advances. Because of this influential role, commentators are critical in media reporting to the public thus influencing the public's understanding of important scientific issues (Caulfield, 2004). Further, the media also plays an immense role of accurately conveying information found in peer-reviewed journals" and "commercial influence on scientific research (Caulfield, 2004). This study sought to find out from respondents how mass media has influenced the flow of information on FP and how they have responded to such.

1.8.6 Challenges faced by media in dissemination of scientific information

The media is an enterprise that strives at making profits. Consequently, they target a wider audience which translates to meaningful business. This profit-oriented approach by the media determines the type of coverage to hit and which one to ignore. As a formality, editors decide which stories will be published Hartz & Chappell (1997). This implies that some topics or news are considered for release to the public by editors whereas others are censured, possibly due to levels of interest the story carries. Lugalambi and Nyabuga (2011) argue that the media often dump down complex issues because they want to appeal to the largest possible number of people especially when commercial media, which privilege profit, are involved. Further, they argue that

perceptions of little audience interest on scientific coverage drives media into paying little attention to the field. It is against this background that media outlets will dedicate less spaces and airtime for scientific stories that are perceived to be difficult by majority of viewers.

There is a general feeling of mistrust and suspicion of media by scientists when a science-related topic is involved. Waithera (2018) noted that scientists rated the quality of science stories in the media as moderate, leaning towards unsatisfactory. Moreover, the relationship between journalists and scientists was reported as neutral, leaning towards negative. This assertion is also shared by Lugalambi and Nyabuga (2011) that the scientific community often fails to trust journalists because of the fear of being misquoted. But perhaps this could be attributed to the tight deadlines in which reporters (media) operate. Caulfield (2004) avers that, reporters are often under extremely tight deadlines; it is not always easy to find an independent second opinion, an indispensable component of balanced and scientific reporting.

Another reason for the *impasse* (Hartz & Chappell, 1997) may be that both scientists and journalists are likely to be egotistical and sceptical by nature. The media and scientists seem not well-versed with how to handle each other but they must settle for a partial truth because the scientist works within parameters set by hypotheses and the journalist (media) works within limitations imposed by a daily deadline (Hartz & Chappell, 1997). Scientists accuse the media of being pro-politics as opposed to science topics. UNESCO gives an example below of media's selective coverage;

The announcement that a young Kenyan, Evans Wadongo, had invented a solar lamp did not receive much media coverage until he was rewarded by former Russian leader Mikhail Gorbachev for apparently transforming the lives of rural Kenyans using a solar-powered lantern. Wadongo was recognized for providing an alternative source of lighting energy. The lamp is considered a clean

and healthy alternative compared to wood-and-kerosene –powered lighting sources. (UNESCO, 2011:8).

The above describes a scenario where local media in Kenya does not appreciate local inventions or overlook them. However, at an international level, the clean energy discovery is seen as one that may end up contributing to the solution of global warming.

Hartz and Chappell (1997) identify language as a source of conflict between science and media (journalists). They opined that journalists frequently overlook or minimize the precise, qualified language that communicates the tentative nature of research findings which angers and dismays many scientists. This is a source of worry to scientists who are reluctant to share their work with journalists for fear of distortion. Peters (1995) as cited in (Tsfati, Cohen, & Gunther, 2011) also argues that because science and media operate from very different value sets and follow different norms of communication, they speak different languages. Peters (1995), note that academic scholars and journalists come from two different cultures. The journalists are eager for interesting information that they can sell for profits whereas researchers (scientist) are interested in communicating factual scientific discoveries. The barriers that the mass media face in handling scientific related topics as identified above helped the researcher to identify the link with FP information too.

1.8.7 Healthcare in Turkana County

Turkana County is one of the poorest counties in Kenya. It has experienced decades of neglect and marginalization which are evident in the absence of adequate and basic infrastructure-roads, bridges, markets, educational and health institutions and water supplies (Shanguhya, (2021). The national health system was decentralized in 2013 thus moving healthcare decision-making and delivery to the county level (Kock & Prost, 2017). Despite the establishment of devolved units (devolution), the county is

still facing series of health challenges ranging from infrastructural to cultural-related challenges impeding smooth delivery of health services in the county. Ekarani (2017) argues that a functioning health system requires suitable buildings, enough staff and the right mix of professional skills and satisfactory terms of employment.

Busienei *et al.* (2019) in Lodwar, outlines culture, poverty, limited sanitation laws, low levels of education and loose sand as the major socio-economic factors of open defecation (OD). She further identified the following themes under culture; habit, pastoralism, bride's dignity and sexual immorality as associated with OD. Open defecation is directly associated with water-borne diseases such as diarrhoea. These are indicators of low health status.

In their study, Busienei *et al.*, (2019) further argue that poverty is one of the major factors that influence latrine ownership in Lodwar. They found out that households with low-income sources had less latrine coverage as compared with high-income households. Reasons highlighted ranged from high costs of construction materials to more pressing needs like acquisition of food. Social, demographic and economic factors such as literacy levels, religious beliefs, norms and traditions and occupation/income are expected to influence behaviour through behavioural determinants (Amooti-Kaguna & Nuwaha, 2000).

The County has a poverty index of 94% which contributes 3.13% on national poverty index (Turkana County SMART Survey Report, 2018) (SMART- Standardized Monitoring and Assessment of Relief and Transitions). Generally, the economic status of a household goes hand in hand with the health standards. In most cases households with low-income levels often place a lower priority on sanitation (Jenkins and Scott, 2007). The foregoing claims are justified by Njuguna and Muruka (2017) who found

out that people living in low socioeconomic status cannot afford improved sanitation and thus are less likely to spend on sanitation. Ekaren (2017) summarizes that the greater the gap between the richest and poorest people, the greater the difference in health patterns. Improved economic situation translates to better health standards due to financial strength to meet health costs, like building proper pit latrines.

A report by Turkana County SMART Survey Report (2018) indicates that in Turkana County, 31,225 children were suffering from acute malnutrition and were at the risk of dying in 2017. The foregoing categorises the county as critical in nutrition levels. The foregoing is attributed to climatic patterns which classify it under arid and semi-arid lands (ASAL). The key drivers of poor nutrition status include chronic food insecurity, poor access to clean water and poor hygienic practices such as open defecation. The preceding indicators suggest that, proper and practical health strategies need to be formulated and implemented if the county is to realize better health standards. In response to the above, the Turkana County Government has made considerable steps such as:

Turkana County Government: County Health Sector Strategic Plan 2018-2022

The Department of Health and Sanitation Services came up with the strategic plan in an effort to meet their aspiration of being a healthy and productive county that is anchored on a progressive, responsive and sustainable technologically driven, evidence-based and client health-centred health system. The strategic plan sets the strategic direction for the county health sector by elaborating the interventions that the county will focus on to achieve the vision of a productive and healthy county. In order to achieve this ambitious vision, the county undertook an assessment of the existing health situation together with the achievements recorded by then so as to identify the most significant gaps and those to be given prioritization. The plan also revealed the

strength of the county in terms of objectives met and the operational situation of health infrastructure and equipment. This strategic plan is guided by national health goals championed by Kenya Health Policy (KHP) and Kenya Health Sector Strategic Plans (KHSSP) whose mandate is to work towards attainment of highest standards of health while being cognizant of needs of the populace and attainment of Universal Health Coverage in Kenya respectively. The national directions are also guided by the Kenya Vision 2030 and the 2010 Constitution, which stresses on rights of Kenyans to access quality healthcare.

Turkana County Health Sector: Monitoring and Evaluation Plan 2018-2022

The Turkana County Health Sector: Monitoring and Evaluation Plan 2018-2022 are a mirror against which goals and objectives under the various health and strategic plans of the County are viewed so as to determine their implementation progress. It comes as a check on whether the expected results envisioned in the health plans under implementation are commensurate to their objectives. It also checks on whether the tasked stakeholders are committed to their roles so as to promote accountability while keeping track of challenges experienced along the way so as to provide immediate response. The mandate of the plan is clearly stated as “expected to serve as a vital tool for timely and systematic data collection, analysis and reporting with the overall goal of improving performance and accountability to stakeholders.” The rationale for this is that the objectives lead to impacts which bring about a desirable change in the health sector, hence accountability is entrenched in the whole process.

This study reveals that the Turkana County Health Sector has set a strategic target of increasing the percentage of women of reproductive age receiving FP from 18.3% to 40% by 2022 with inputs in FP commodities and equipment, and information, education and communication materials. The processes involved are training of current FP

methods and distribution of information, education and communication materials while the expected outcome being increased uptake of FP services and proportion of women of reproductive age receiving FP commodities. The desired change envisioned in the society is reduced maternal mortality.

Healthcare in Turkana County as reviewed above is important in understanding the present situation and how poverty and culture have affected it. Its history of marginalization in terms of health development is an impetus that guided this study in understanding the challenges facing FP programs in the county. Furthermore, the strategic programs developed by the Turkana County Government indicate the commitment of the county in healthcare development.

1.9 Theoretical Framework

This study is pegged on two theories and one model. It is guided by the Theory of Influence of Presumed Media Influence (IPMI) within the domain of mass communication. This theory was chosen because of its applicability to a variety of contexts including health communication. The Functionalist Theory of Religion was also used to guide the study. In addition to these theories, the Dialogue Model was used to supplement the theories because of their inadequacy to cater for the whole study on their own. Let us now discuss each of them in relation to the study.

1.9.1 Influence of Presumed Media Influence Theory (IPMI)

This theory is attributed to W.P Davison (1983) who argued in his article “The Third-Person Effect in Communication” that, much of the effects of media on society take place because people perceive media as influential. Over time, it has been accepted and advanced by other proponents such as Gunther and Storey (2003) who offered the term influence of presumed media influence to describe the behavioural component. Authors

of this theory postulate that, perceptions and beliefs about the effects of communication are sometimes influential. They argue that, people's perceptions of the effects of mass media shape their reactions to media and interactions with media in various ways in relation to their perceptions. People's attitudes and other reactions (behaviour) are determinant on their perception of media impact. Further, proponents such as Günter (1995) demonstrate that when people overestimate the influence of harmful messages on others, they are inclined to espouse message restrictions. The IPMI Theory focuses on the consequences of perceptions of media influence, mainly influence on society, for the attitudes or behaviours of audiences.

The IPMI Theory guided the study in achieving objectives one and three. It was used to establish whether scientists and RCC in Turkana have their own means of passing information or they utilize mass media. Furthermore, the theory was helpful in investigating whether mass media is a barrier to communication between scientists and RCC. In this scenario, the public is easily influenced by the media into collaborating with either the Church or the scientist in relation to the uptake or rejection of family planning. This study utilized IPMI theory in establishing how science and religion win public trust in the face of an influential mass media in Turkana County.

1.9.2 Functionalist theory of religion

According to the founder of the theory, Emile Durkheim (1951), religion is made of core sets of beliefs and practices that unite members into a moral community. Durkheim holds that members are conscious of the sacred and profane and it is this distinction that helps them to uphold the sacred while avoiding behaviours, or decisions that are profane. He further claims that the beliefs in-turn strengthens norms and behaviours to cause solidarity among members. This solidarity acts as a form of social control as members of the group not only adhere to beliefs that guide appropriate and acceptable

behaviour because they are integrated into the group, but they also adhere to these norms and behaviors because they fear being stigmatized for diverging from the norms and behaviours promoted by the group (Sumter *et. al.*, 2018). Durkheim's theory was useful in guiding objective two. Specifically, this theory guided the study in understanding whether RCC faithful in Turkana live in solidarity according to the teachings of the Church on matters FP. It was found out that the Catholic Church's member's level of adherence to the RCC teachings and beliefs show his/her extent of integration to RCC. Consequently, the extent of this integration is expected to influence the adoption and type of FP in line with RCC beliefs.

1.9.3 The Dialogue Model

Trench (2008) and Buchi (2009) suggested three models of expert-public interaction in science and technology communication; dissemination, dialogue and participation model. Concerns with public engagement over time have led to a more dialogical mode across the three models with a shift from dissemination (deficit) model to a dialogical model (Heartland 2017). The model is characterised by a two-way communication process whereby the source engages the target. In this case, scientists who are leading researchers engage the public, from all walks of life, with their findings. Heartland (2017) advances five reasons in favour of this model; the researchers get corrective feedback and ideas. The interface between science and religion becomes clear when the concerns of the presumed target are factored in by the source. The second reason is that the users get an opportunity to participate. Scientific research is targeted at improving human life thereby the target is human beings who ought to be involved through active participation. The public is no longer just a consumer of scientific findings but active participants and this is part of democratisation of science. Thirdly, research results are more easily accepted by the users and adopted if relevant. Science is at the forefront of

improving human life through advances which pervades human life. The risks of unchecked population growth can be determined accurately and countered by science through developing counter measures. These measures such as the adoption of AFP are easily accepted by the public if the public were involved and because of their relevance. Fourthly, both researchers and users enrich their knowledge, itself is built upon knowledge through research upon research and interrogation. Suspicions held by the lay public against new scientific findings can be counteracted through provision of accurate and timely information by the scientist through science communication so as to avert controversies. The public ought to be taken systematically through the processes of science and how they can apply it on their own. The fifth reason is that the users get a better understanding of certainty and uncertainty when interpreting the results.

The dialogue model introduces dialogue activities which are ideal for Turkana, such as active public debates, trainee-programmes, participant involvement, and, lay people's conferences and workshops on FP. This model was used to achieve objectives two and three. It was ideal in exploring the areas which scientists and RCC in Turkana agree and disagree, and whether non-expert public were given opportunities to ask questions concerning FP. This model supported the researcher in understanding how the fears and suspicions held by the RCC against science especially FP programmes could be circumvented through corrective, accurate and timely feedback.

1.10 Research Methodology

1.10.1 Introduction

This section describes the study design, area of study and target population, sample size and sampling procedures and data collection instruments that were used to carry out the study.

1.10.2 Study design

The study adopted exploratory, descriptive, and cross-sectional design. This is because the researcher wanted to explore and describe the barriers to effective communication between scientists and the Catholic faithful with respect to FP in a single-time study. In order to achieve the aim of this study, the researcher employed a qualitative approach. Data collected from the field was complemented by data obtained from the secondary sources to enrich the study.

1.10.3 Area of study and population

This study was carried out in the Catholic Diocese of Lodwar, Turkana County in North Western Kenya as shown in Appendix V. The choice of this area for study by the researcher was motivated by the fact that Turkana County is found in a rural and indigenous but largely Christian population with a good establishment of Roman Catholicism. The choice of the RCC was motivated by the fact that it has been vocal and is not much influenced by modernity. The region is also marked by the presence of numerous health facilities. Health experts in health institutions offering FP services and Catholic faithful within Turkana County composed the study population. Therefore, the availability of intended characteristics of this research in Turkana County motivated the researcher to settle on the area.

Moreover, the study was nested in a broader study involving different universities across Kenya and coordinated from Mt Kenya University titled “The interplay between religion and science in the African context with particular focus on health and healing”. The broader study was supported by the National Research Fund.

1.10.4 Sample size and sampling procedures

The researcher used both non-probability (non-random) sampling in the selection of samples. Under non-probability sampling design, purposive sampling was adopted, whereby four health researchers (scientists) from two health institutions were selected for inclusion in the sample. Each health facility constituted two participants. Purposive sampling was also utilized in the choice of the clergy from each of the four Roman Catholic Churches in Turkana County involved in this study. The scientists and the clergy are treated as key-informants in the study. The choice of this method in the selection of the scientists and the RCC clergy was informed by the fact that they (informants) were best-fit and contained better insights relevant to the study. Furthermore, twenty-four lay catholic faithful were purposively sampled for focus group discussion (FGD). The total sample for the study was thirty-two.

1.10.5 Data collection

The researcher collected data from the field using the interview method of data collection. The instruments used were interview guides and (FGD) guides.

Interview guide

Interview method of collecting data can be through personal (face-to-face) and telephone interviews. In this study, the researcher intended to collect qualitative data from scientists (health practitioners) and RCC clergy through personal (oral) interview using an interview guide containing a set of specific questions to allow smooth discussions. Unstructured interviews were conducted with interviewees because it (unstructured interview) happens to be the central technique of collecting information in case of exploratory research studies (Kothari, 2004). The oral interviews were conducted on four scientists as participants and four catholic clergies. The researcher judged the level of saturation to be obtained at the end of interviews with the selected

participants. This instrument allowed probing and clarification of ideas hence the researcher obtained valuable information for the study.

Focus Group Discussions guide

The research employed three FGDs of eight respondents each for open discussion. The FGDs had four women and four men. FGD guides framed the discussions for optimal results through open discussion and clarification of issues.

1.11 Reliability and Validity of the Research Instruments

Reliability (of an instrument) means that the same result(s) is received under identical or very similar conditions whereas validity refers to how well an idea(s) we use to analyse the social world fits with what actually occurs in the lived social world (Kothari, 2004 & Newman (2014). In order to eliminate or neutralize on the errors that may arise out of research instruments, the researcher took the following measures: validity of research findings collected were determined by the use of different research instruments to collect data from the sources; pilot testing was also carried out in the target area but did not involve the sample population of study; and appropriate sampling procedure was used to arrive at a valid and reliable sample size. The researcher also minimized response challenge by the participants through developing an enhanced interview and FGD guides not defective of responses, question ambiguity, question difficulty and language complexity. Giving of sincere and truthful information by the respondents was enhanced by explaining to them the purpose of the study.

1.12 Data Management and Analysis

The study used a qualitative research design to describe ways in which scientists communicate FP findings to the non-expert public and the barriers to communicate between them and the RCC. Being a qualitative study, the researcher collected

qualitative data and analysed them thematically and in prose forms. The in-depth interviews with key informants and FGDs enabled the researcher to obtain raw data from which themes and categories were identified based on the research objectives. The understanding of the themes was enhanced through use of secondary data. The responses from various participants were coded which enabled the researcher to derive conclusions as per the objectives. Similarity using themes was achieved by sifting through large volume of raw data from research participants. The collected data was then examined and inferences drawn based on themes. Lastly, data was presented in form of prose and themes.

1.13 Ethical Considerations

A research license was sought from the National Commission for Science Technology and Innovations (NACOSTI) before going to the field (see Appendix VII). The principles of respect of persons, beneficence and justice, and their respective applications; informed consent, assessment of risks and benefits and selection of subjects, were adhered to in carrying out this study. The researcher also ensured confidentiality of data provided by the respondents in line with the principle of respect of persons. Pseudo names were used in reporting. The risk of reprehension of respondents was minimized through concealing of their identities. Interviews conducted were recorded with the permission of the respondents and were destroyed at the completion of the study. At no stage were the respondents coerced to give information. The researcher provided information to participants so that they could make a decision to consent to the study or not to. The information gained from the respondents was limited to use in this study.

1.14 Summary

This chapter presents introductory parts that are built up in later sections to make a complete study. It begins with background information, statement of the problem plus aim and objectives of the study. The chapter also contains reviewed literature which exposed some gaps as far as synergising science and religion is concerned. Theoretical framework has been covered whereby two theories and one model are designed to help in understanding the relationship between the domain of science and religion. The study adopted a cross-sectional exploratory design as its methodology to generate and analyse its data. The chapter also introduced the study as qualitative. Ethical considerations that guided the researcher in the course of the study are also captured in this chapter. This chapter serves as an introductory to the subsequent ones whereby in chapter two, the researcher expounds on the life of Turkana people and the sample of the study.

CHAPTER TWO

THE TURKANA PEOPLE

2.0 Introduction

The previous chapter introduced the study on various aspects and therefore it has limited information on each of these aspects. The present chapter intends to shed more light about the area of study and the Turkana people from whom the participants of this study are drawn. Their socio-demographic characteristics as well as way of life are presented because they are perceived to be having a bearing on their healthcare, in particular, FP for our case.

2.1 The Geography of the Turkana County

Turkana County is situated in North Western Kenya bordering Uganda to the West, South Sudan and Ethiopia to the North, and Lake Turkana to the East. It has West Pokot, Baringo and Samburu counties as neighbours (Turkana County Health Sector Strategic Plan, 2018-2022). It lies between longitudes 34° 30'E and 36° 40'E and between latitudes 10° 30'N and 50° 30'N (Turkana County Annual Development Plan 2019/2020). It is the largest county in Kenya by land size, with a total geographical area of 77,000 Km² (Turkana County Health Sector: Monitoring and Evaluation Plan, 2018-2022). It is sub-divided into seven administrative sub counties namely, Kibish, Loima, Turkana Central, Turkana East, Turkana North, Turkana South and Turkana West. The county headquarters is Lodwar Town; the Office of the Governor is also domiciled there.

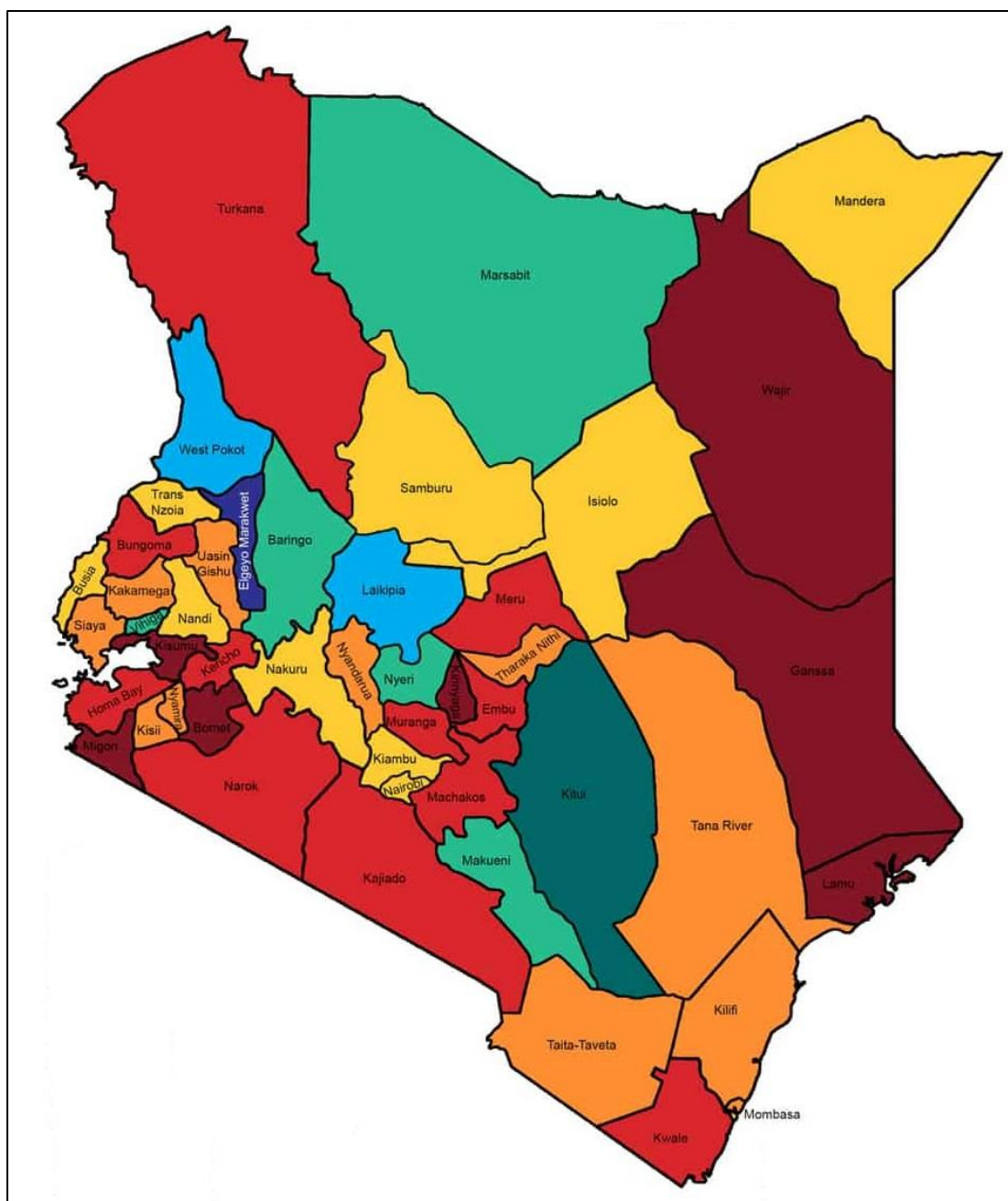


Figure 2.1: Map of Kenya by counties *Source: IBP (2019)*

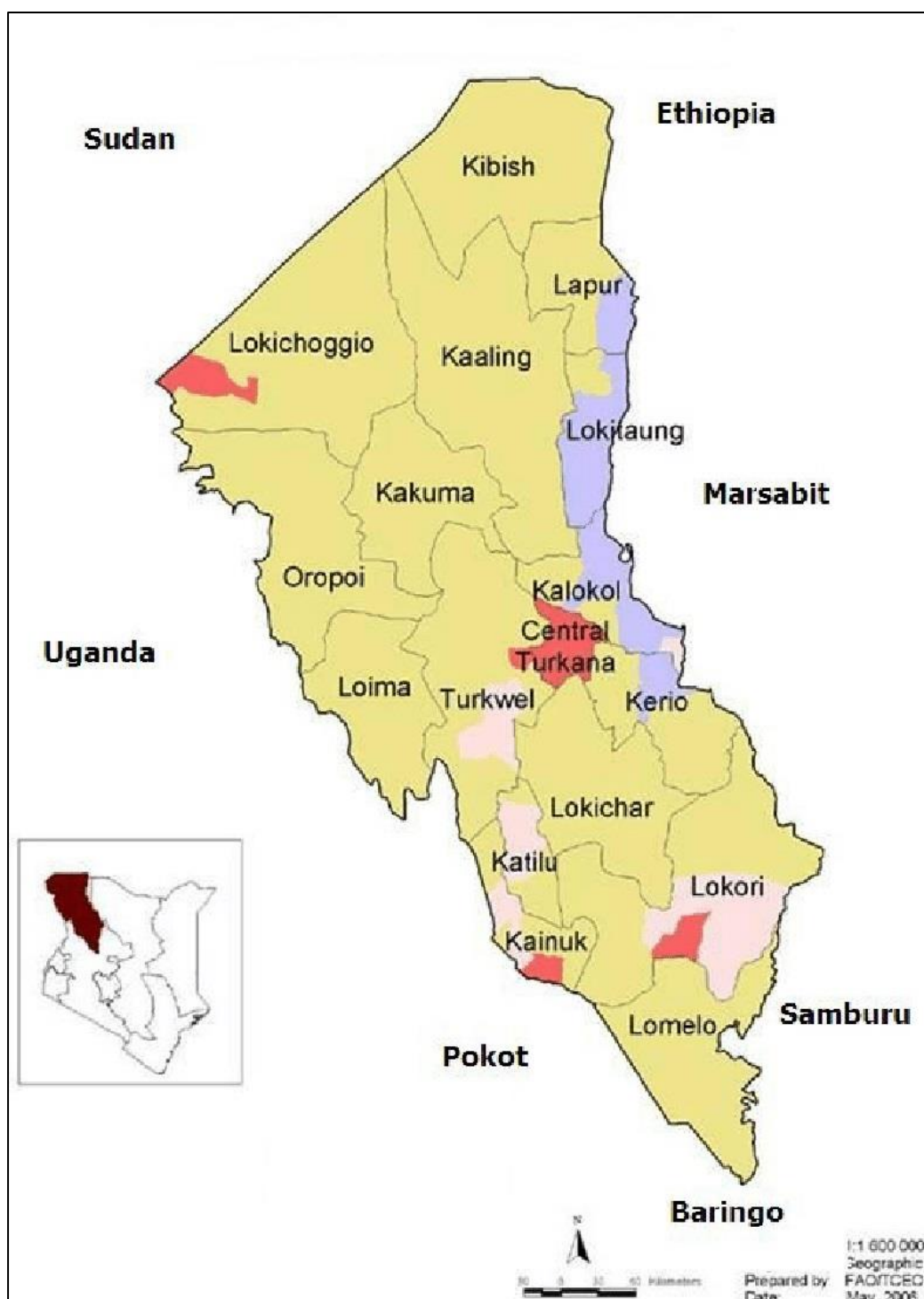


Figure 2.2: Map of Turkana County *Source: FAO, 2006*

According to KNBS (2019), the population in Turkana County stands at 926,976 with an average household of 5.6. The Turkana ethnic group belongs to the Karamajong cluster (Dioli, 2018). This means that the Turkana people are related linguistically with other pastoralist groups like Njemps and Jie.

2.2 Economic life of the Turkana people

The climatic conditions in Turkana County determine the economic activities carried out in the region. The county is categorized as part of Arid and Semi-Arid lands (ASALs). It is prone to prolonged droughts which take a toll on livestock causing malnutrition among children. The Turkana people mainly practise pastoralism on their vast and open lands. The above economic activity is dictated by the topography and climatic conditions of the region which lies along the Eastern Rift Valley. The Turkana own a wide range of indigenous livestock species such as cattle, camels, donkeys, goats and sheep which can withstand droughts and other hostile climatic conditions.

Turkana County is affected by droughts that lead to recurring hunger. The foregoing conditions facilitate conflicts generated by contests for water points and pastures. The harsh climatic condition has led to alternative negative ways of survival, raiding included. Schilling *et al.* (2012) identifies Loya area as a zone for conflict between the Turkana and their Pokot neighbours. Opiyo *et al.* (2015) found out that the community had shifted to rearing goats and camels due to their resistance to harsh climatic conditions compared to cattle.

As pastoralists, their favourite food is milk, meat and blood which they derive from their livestock. Apart from food, they use their livestock for payment of bride wealth. Culturally, wealth is determined by the size of herd, the larger the herd one possesses, the wealthier he is considered. Traditionally, Turkana men practice polygamy, a factor that drives men to acquire more resources (cattle) for pride wealth. However, the Turkana County SMART Survey Report (2018) indicated that, the main occupation of households had significantly shifted, with livestock herding dropping from 71% to 51.3% in 2016 and 2018 respectively. The report further revealed that most households supplemented their pastoralism with selling firewood and charcoal burning. Ekaran

(2017) noted that there was charcoal burning and selling, taking a toll on their forest cover and contributing to the worsening weather and climatic condition such as flooding and severe droughts.

Further, it seems the changes in the climatic and weather conditions have precipitated changes in the Turkana culture of livestock keeping. Changes are being manifested in a shift from traditional cattle-herding to agro-pastoralism. Agricultural products complement their food. They are adopting new practices such as irrigation of food crops and fishing. Surprisingly, fish mongering was initially considered a taboo by the community. The Turkana trade agricultural products such as maize and vegetables with neighbouring counties; West Pokot, Samburu and Baringo.

The Turkana people also grow sorghum, maize, green grams, watermelon, vegetables, pumpkins and bananas among others, through irrigation along seasonal rivers (Opiyo *et al.*, 2015). This diversification of food sources is to feed their ever-growing population.

It is hoped that the economy of Turkana County will soon be revolutionized with the discovery and exploration of oil in the county. The exploration by Tullow Oil Company has so far attracted several small and medium size enterprises (SMEs). With the oil exploration, the price of buying land in the county rose rapidly. By the time of this study, a plot measuring 50 by 50 metres was going for between KSh300,000 and KSh400,000 depending on the location compared to 2011 when the same piece same piece of land was sold at KSh50,000 (Lutta, 2015).

The Turkana interact with their neighbours through trade, war and intermarriages. Consequently, intercultural exchange has taken place. Burton (1921) notes that, birth,

marriage, inheritance and death rites of the Jie, Dodoso, Karamojong and Turkana are similar.

The Turkana adore initiation ceremonies. Juma (2016) explains that, initiation takes place among adolescent children; its climax is crowned by the spearing of a male animal that could be an ox, camel, he-goat or ram, as a purification ritual followed by a feast. A similar practice is also found among the Suri people, a pastoral community living in the Maji area of South-West Ethiopia.

In the contemporary world, FP comes in as a way of enabling couples to have a number of children that they can comfortably care and provide for. The poverty level in Turkana County calls for adoption of FP.

2.3 Turkana Religious life

It is worth-noting that there is no distinction between the religious and cultural life of Turkana people. Just like other African religions, the two are intertwined and they influence people's way of life (Mbiti, 1969).

During the pre-colonial period, the Turkana people were organized like other pre-colonial African societies into age-sets. Gulliver (1958) notes that the age-group system was marked by a transition to formal adulthood that led the initiate to take up responsibilities such as being a warrior and on the other hand enjoy adulthood privileges. These initiates conducted raids and defended the community against external attacks. They were also charged with providing their community with security from possible raids from bandits or neighbouring ethnic groups (Juma 2016). Juma (2016) explains that one of the functions of age-sets was raiding to acquire territory, pasture, water supply, animals, and to protect these from external aggression. It seems

that age-set systems are built on the basis of military activities for raiding to acquire stock and pasture and immortalize enemies, even through killing.

The Turkana people believe in the existence of a Supreme Being, often referred to as *Akuj*. The Turkana believe that *Akuj* is the cause of everything and thus, in charge of whole of their lives. *Akuj*, their High God, gave them all livestock as a blessing according to their belief system. According to them, *Akuj* blesses them with livestock and plenty of pastures, eliminates diseases and increases their numbers as well as enriching their livestock in response to their virtuous life (Gulliver, 1951). As expected, every member of the community wanted blessings and thus strengthened their religious and moral life. According to the Turkana people, the pathway to blessings is being in harmony with their ancestors. With high mortality rate due to poverty, diseases and inaccessible hospitals, many Turkana families desire to have many children so that if some die, they will be left with others. Reducing the number of children that a family gets is interpreted within the community as a sign of poverty. It is against this background that the cultural practice of polygamy and giving birth to many children is a norm, hence a challenge to FP.

Divination is common within the Turkana community; it serves a vital role of linking *Akuj* and ancestors with the Turkana people. The diviner (*ngimurok*) foretold the future events. These diviners are capable of predicting accurately the occurrence of events (Gulliver 1951). The researcher concurs with Muller (1989) that the diviner warned community in case of any impending danger and advised the community on appropriate measures. The diviners' role was not limited to foretelling alone; they doubled up as healers. Further, they were believed to be capable of communicating with the ancestors in times of need.

In African societies, death does not necessarily cut ties between the living and the departed (Mbiti, 1969). Just like in the rest of Africa, the departed are remembered in Turkana by relatives and friends. To the Turkana, death is a transition in life from the living to the living-dead. The departed souls are believed to be approached through prayers, pouring of libation or making offerings. It is believed that, the living dead provide linkage between the living and *Akuj* through communicating to the *emuron* (a religious specialist). In this case, diseases and the absence of God's spittle (rain) for quite some time which causes suffering through losses is interpreted as caused by God when angry. It, therefore, takes the intervention of the living-dead who inform the *emuron* and thus a ritual is performed to mend and restore the relations. Prayers and sacrifices are made in sacred places, including hills and rivers.

Rites of passage

Rites of passage mark a transition of life force across African societies. Rites of passage among the Turkana people of Northern Kenya are usually accompanied by rituals; they are presided over by elders who are both men and women. A religious specialist (*ngimurok*) serves the purpose of blessing. These include birth, initiation from childhood to adulthood, marriage, and death; each stage has an accompanying ritual. As earlier noted, it is at initiation stage that age-sets are formed and warriors of the community are sourced. According to the Turkana, a marriage is not complete until the first child reaches walking age, rationale for this prolonged time being to allow for ritual, spiritual and social being of those involved. This approach may be interpreted loosely as a form of FP. In this community girls marry at a tender age of around 16 so that they start giving birth early and by the close of their reproductive age, they will have many children. The religio-cultural life- full of taboos and practices, of Turkana people has a bearing on their healthcare as will be seen in the next section.

2.4 History of Healthcare in Turkana County

At independence, Kenya sought to fight three major ‘enemies’- poverty, ignorance and disease. Although some considerable achievements have been registered over time, all three enemies prevail; marginalized regions such as Turkana County suffer the worst from these. The GoK has developed various strategies towards developing the health sector so as to adequately fight diseases. In its commitment, the government formulated a Universal Health Coverage (UHC) and prioritised it under its Big Four Agenda (Mvurya, 2020). With this policy, the government seeks to ensure that every citizen has access to affordable healthcare without necessarily being thrown into poverty or financial crisis. FP is considered one of the essential health care services under UHC program. However, Turkana County still struggles to provide its constituents with better healthcare.

FP as a health practice is not foreign in the culture of the Turkana community although it is understood differently. As earlier noted, socio-cultural, demographic, economic and health factors determine the adoption and uptake of FP. Ekanan (2017) found out that more than half of the respondents (52.5%) in his study agreed to the practice in the community whereas slightly less than half (47.5%) disagreed that FP was practised. These preceding figures suggest that FP is practiced in a traditional form in Turkana County.

Ekanan further revealed that the Turkana people take children as a gift from God. The worldview of Turkana community in relation to giving birth is that limiting the number of children in a family signifies limiting blessings to a family and the community at large. However, this is just a myth that needs scientists to come forth and debunk them with facts. This situation does not imply zero chances of success in introduction of FP to the community. Various health policy plans formulated by the national and county

governments acknowledge the value of FP in the attainment of quality healthcare. The policies stress the need for small families that can be provided for adequately as opposed to large ones that strains the available resources. The quality of life that one lives matters; it is dependent on the economic situation. Intense campaigns still need to be conducted to promote FP together with the benefits that come along with it.

Ekarani (2017) reports that a significant number (27.3%) in Turkana Central Sub-County believe that FP causes infertility and diseases. This is a concern to the users and non-users alike. However, the scientists (health care and health research practitioners) need to reach out to the concerned and provide timely information and feedback. The use of some FP methods especially AFP methods require considerable knowledge for their proper use. However, this is a challenge to the community members whose literacy levels are relatively low but use of Community Health Workers (CHW) may help. Furthermore, scientists need to be at the forefront in doing so; they should not let the media replace them. Channelling of correct information and at appropriate time will produce positive response from the target groups.

Religion wields much power in people's lives; that their actions are weighed against the teachings of their religion. Currently, apart from the Turkana Religion, the community has embraced Christianity, with a significant number of the population being adherents of the Roman Catholic Church. The Roman Catholic Church has been constant in its stand on FP; not against its adoption but discourage AFP methods. The teaching authority of the Church has taught against AFP method, citing health concerns and as interference in the intelligent plan of the creator. Therefore, it has consistently advised its faithful to shun the use of AFP methods. The Church's teaching not to regulate the number of children in a family tally well with the community's belief that the children are a blessing from God, hence they easily accept the Church's position.

Apart from the Church's position, the African Religion advocated for more wealth in form of children. Akuj, the Supreme Being, the giver of life, is asked during prayers to bless the community. The entry of a new member into a community through procreation is a blessing and exit through death was a loss.

2.5 Background Information on the Sample Population

The researcher set out to collect data that would provide discussion of themes based on the three objectives of the study. The study is majorly about engagement of science and religion with special interest in health experts as scientists and RCC being a religious group. Through extensive literature review that was done by this researcher, it was found out that FP is majorly practised by the female gender. Consequently, the researcher preferred to have most of the respondents to be female. The female respondents targeted were those who were married, aware and practised FP. Nevertheless, a few male members were incorporated. All the respondents were of Turkana origin. These respondents were held to have information that would help the success of the study. Questions contained in data collection tools were formulated in respect of the objectives guiding the study. The researcher sought an interpreter who was first familiarised with the questions, to assist in the interpretation of questions. In order to obtain deeper information, some participants were treated to key in-depth interviews. In-depth information from RCC was obtained from four ordained priests who were based in Lodwar Town, Turkana County. From the field of science, four health experts (health care workers and health researchers) from FP department were sampled. Those who had administered FP services were preferred. FGDs were also done with three separate groups each composed of eight members. FGDs allowed for free and open discussion with the members. Both FGDs and in-depth interviews allowed probing and clarification of issues.

The distribution by gender of participants who participated in this study is shown in Figure 2.3 below:

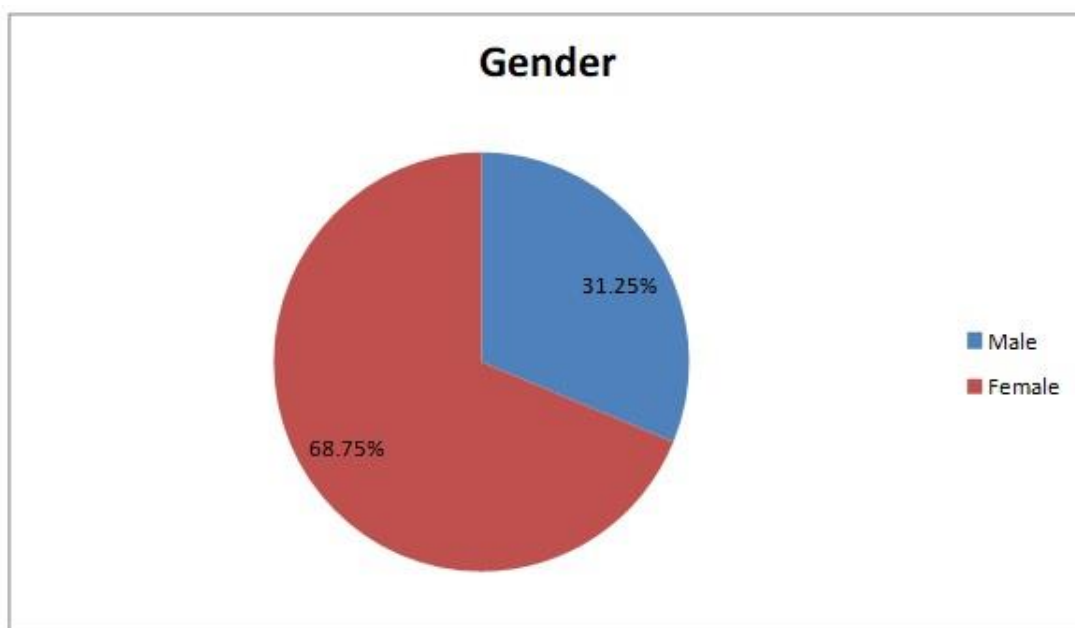


Figure 2.3: A chart showing Gender Distribution

As shown in Figure 2.3 above, out of 32 participants, 10 (31.25%) were males whereas 22 (68.75%) were females. On the side of scientists, the researcher interviewed two male and two female scientists. All the RCC clergy were male. Out of the three FGDs conducted, only one had four male members. This disparity in terms of gender was preferred by the researcher who through findings from the secondary sources (literature review) revealed that culture and patriarchy are strong enough to influence decision making in matters of contraceptives and FP. Therefore, the researcher preferred the female gender to male for the study.

Below is Figure 2.4 showing the distribution of study participants across the three target groups.

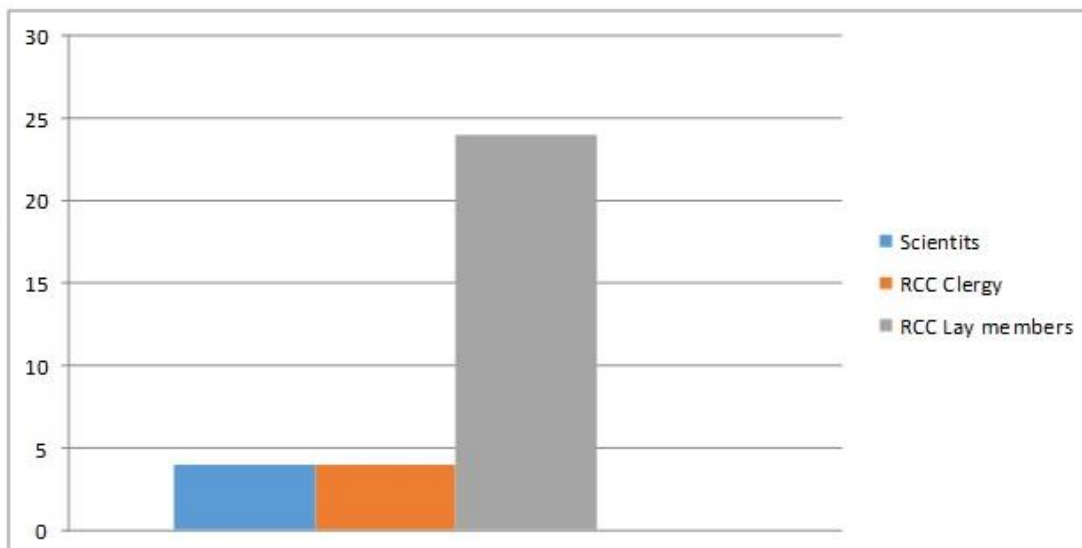


Figure 2.4: Study participants

The Figure 2.4 above shows study participants who were 32 in total. The scientists were four and RCC faithful comprised twenty-eight (28) members; four clergy and 24 RCC lay members. Scientists and RCC clergy comprised key informers. Scientists were balanced by gender, two male and two female all attached to Departments of FP in their stations. RCC clergy were all male but RCC lay members comprised only four men. All men were incorporated into one of the FGDs.

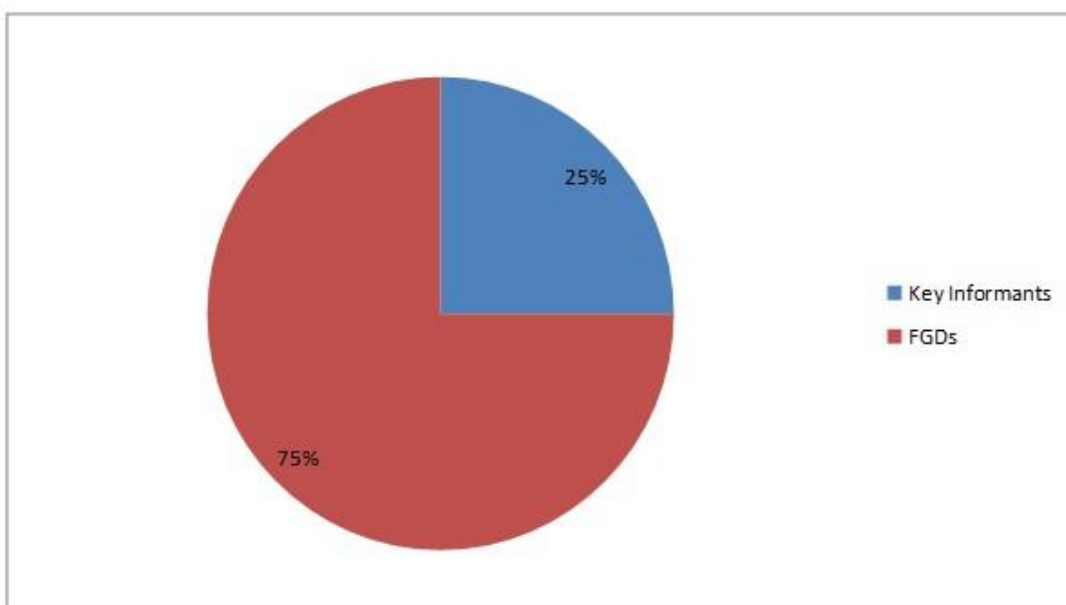


Figure 2.5 A chart showing Distribution by participation

Figure 2.5 above shows that the sample was treated to different methods of sourcing information; in-depth interviews and FGDs. The researcher conducted in-depth interviews with scientists and RCC clergy participants who were considered as key informers. The researcher also conducted three separate FGDs with RCC lay members with the help of an interpreter. In this scenario, scientists are source of knowledge on FP, but the decisions on the use is made by both scientists and RCC clergy. Due to their different standings, RCC clergy would oppose some of FP methods proposed by scientists, and the result being that the uptake of FP was affected.

It was also important for the researcher to establish other socio-demographic factors of those who were sampled to participate in the three FGDs. A total of twenty-four members were treated to FGDs and their characteristics are as presented below.

Table 2.1; Socio-demographic characteristics of FGD participants

SOCIO-DEMOGRAPHIC CHARACTERISTICS	FREQUENCY N=24	PERCENTAGE (%)
AGE (years)		
Below 20	4	16.67
20-29	11	45.83
30-39	6	25
Above 40	3	12.5
EDUCATION LEVEL		
Never went	6	25
Lower Primary	8	33.33
Upper Primary	5	20.83
Secondary	3	12.5
Tertiary	2	8.33
MONTHLY INCOME		
Less than 2000	10	41.67
2000-4000	9	37.5
Above 4000	5	20.83

Findings from table 2.1 above show that majority of participants (45.83%) were between ages 20-29. This group was active in child bearing. The researcher sought to

know whether this child-bearing age had implications on FP. The findings also show that the participants have low education levels. Educated individuals would understand FP information on their own and make decisions independent of what the Church may be teaching. Participants in this study from Turkana County would require interpreters for them to understand FP information. This opens a window for different actors to come into play as sources of FP information, which may end up confusing the users. In this scenario, the scientists, the Church and mass media would be competing to win public trust. Poverty levels have implications for FP, for example in terms of affordability in case the service is not freely provided

2.6 Summary

This chapter has dealt with the geographic location of Turkana County and has indicated that its location has impacts on their culture, healthcare and socio-economic activities. A relationship has been established between the Turkana people and their neighbours that has shown evidence of interactions and relatedness in many facets including some cultural practices. Historically, the region has been marginalized economically and socially. Social, economic, religious and cultural life of the Turkana people are all intertwined, and for this reason, wealth is in form of children, good health and cattle, and all are a blessing from their God (Akuj). Akuj blesses the people, and having many children is much blessings. Consequently, having many children is a sign of blessing from Akuj. With modernity and western culture knocking in Turkana County, it would be interesting to find out how scientists handle the non-expert public with scientific health information, especially on family planning. This is the focus of the next chapter.

CHAPTER THREE

SCIENTISTS AND RCC COMMUNICATION ON SCIENCE ISSUES IN TURKANA COUNTY

3.0 Introduction

This chapter examines communication methods that scientists and the RCC apply when relaying their information to the public. It seeks to illuminate how the two entities tackle and reach out to the public on science issues with a focus on FP . It covers themes such as science communication, behaviour change communication (BCC), communication strategies used by the scientists and the challenges faced.

3.1 Communication on Science Issues

There is influx of new scientific and technological advances in Sub-Saharan Africa which requires scientists to come up with creative ways of communicating to the community. Scientists in the area of study explained that they;

... pass scientific information to the public, through seminars and workshops...the internet, papers and books are rich sources of scientific information (KI 001)

Upon further interrogation, whereby the researcher sought to know whether they incorporated the locals during actual research and dissemination process, it was revealed that;

... scientists are at the core of every research...goal of every research is to mitigate existing challenges although we might not involve locals but because they are non-experts...however, some processes may pose some challenges to their lifestyles... (KI 002)

Some scientific advances are suspected to be causing moral depreciation within traditional societies, especially in this information age, thereby threatening the vital role of traditional institutions that served to inculcate community values. The Koech Commission (1999) observed that, the institutions within the African traditional setting

which had been responsible for inculcating values are no longer operational due to the rapid changes in the society.

There is a new shift in the field of basic and developmental science which demands citizen inclusion in those studies. The revelation made by scientists suggest that locals are rarely involved in the process of research. Neupane (2015) asserts that, if basic research is to be used for the betterment of human lives, there is no better way to identify a citizen's needs and challenges. Science should serve the interests of those people in the associated developmental processes. The foregoing is in line with the democratisation of knowledge and observance of rights of the participants involved as part of the new trends in research. Neupane further illustrates that without citizen involvement, no social good can come of open data, since there will be no recognition of local needs for subsequent data downscaling and data mainstreaming.

Science, whose engine is research, has been credited with alleviating human suffering through technological innovations in line with the view that basic research is extremely important for any scientific research. Almost all facets of human life have a contribution from science; more resources are channelled towards conducting more research. Currently as human life and world economy are threatened by Corona Virus (COVID 19) pandemic, all the eyes are focused on scientists and World Health Organization (WHO) to come up with a remedy, possibly a cure. WHO has strived to fight the Corona Virus pandemic which has posed dual economic and health crises in the world (Wong, *et, al.*, 2020).

In Kenya, efforts to control the spread of the COVID-19 have been put in place by the Ministry of Health (MoH). The foregoing effort has gone through challenges such as misinformation, misconceptions and unwillingness of the general public to follow the

guidelines laid out by the MoH such as banning social gatherings (Wong *et al.*, 2015). Austrian *et al.* (2020), revealed that most participants reported receiving information on COVID-19 from a wide variety of sources. The study also noted that there were some misconceptions regarding specific symptoms. Historically, researchers (scientists) have saved the world from similar epidemics such as polio, malaria; they have led the discovery of antiretroviral (ARVs) for persons living with HIV.

3.2 Communication on Family Planning

The first objective of this study was to explore ways in which scientists and the RCC communicate on science issues in Turkana County, FP being of particular interest. FP communication refers to the various campaigns adopted in the promotion of FP to the intended audience. Communication has played a critical role in the promotion of FP since its adoption in Kenya (Mokaya, 2014). Over time, the communication methods of have evolved due to the dynamic nature of the world. The Population Council (2012) has identified various historical epochs through which communication methods have evolved. To begin with is the ‘Clinic model’ that was predominant in 1960s. The model was characterized by a doctor and nurse lecturing patients on contraceptive use in clinical facilities. Later, the 1970s ushered ‘field era’ that was characterized by community-based distribution and home visits to encourage the use of contraception. Lastly, the ‘Strategic communication’ took over in the 1990s. Strategic communication shifted the attention to evidence-based programs and evaluation. Findings obtained from the field through FGD revealed that, health groups- NGOs, public and private, normally hold extensive consultations with village elders to build awareness on health. It was revealed during one of the FGD that scientists used various modes of communication such as:

Radio, outreaches, using CHV, using articles and journals, health staff and TV adverts to spread talks on FP (FGD 002).

Scientists have diversified avenues of disseminating scientific information to the public. The avenues incorporate all the stages through which communication on FP have evolved. Diversification of approaches is an effort to increase the bracket of FP users so that the illiterate who cannot benefit from written materials on FP can be assisted through the help of CHVs. Mass media commonly in use in Kenya include radio, TV, posters and new papers. Radio and TV can incorporate other outreach programs such as drama, expert-talk shows and songs. BCC programs also use “small media” with more limited reach, such as videos, audio cassettes, pamphlets/flyers, and FP messages in various paraphernalia such as T-shirts, key chains, hats, calendars, and mugs (Population Council, 2012). In Kenya, a modern practise is organizing road shows, especially to cover lower economic zones. In order to make it effective in transmitting their message, they partner with groups such as a specific radio station or corporate enterprises. Almost always, on board is a team of entertainers such as comedians or musicians and dancers to ensure the target audience does not get ‘bored’ but remains active.

Community-level events involve many activities, with a common characteristic of meeting the population face-to-face in their social environment (Population Council, 2012). The Council postulates that much of the community mobilization operates on the principle that empowering communities to take ownership of their health needs is essential to effective and sustainable programs. Scientists further revealed that;

We conduct outreaches with the target FP users...with the help of community health volunteers (KI 002).

We organize seminars and workshops...we also produce scientific reports and publish papers in journals...scientific information is also available from the internet websites (KI 004).

In a run up to this, members from the village are selected to be trained on health matters such as FP as explained below;

We have had some of our (Turkana) members being recruited as community health workers to assist doctors (scientists) in engaging the community members on FP (FGD 001).

This is the approach that encourages sharing of information between scientists and the locals, which is part of democratisation of science that encourages members of the community to be part of the solution.

Scientists also revealed that they were careful not to get into conflicts with the community elders on culture. One noted that;

As doctors (scientists), we normally hold extensive consultations with the village elders to build awareness on health matters such as FP (KI 003).

As noted earlier, the population in Turkana County is considered to be indigenous; its culture has not been heavily influenced by modernity. In relation to the use of mass media, scientists were quick to point out the importance and risks that were associated with it. Their responses included;

We have been able to reach many of our targets in Turkana through the use of radio stations that are available in Turkana County...they have a wide audience (KI 001).

Yet another scientist reported that;

Mass media such as the radio and newspapers are strategic...but they also ran the risk of misrepresenting FP facts to the populace and the outcome may be that FP suffers rejection (KI 003).

Scientists acknowledged the significance of incorporating mass media in their work but not without reservations. Their major concern was that the media might misrepresent FP facts to the locals; the outcome may be emergence of controversies and eventual rejection of FP. However, scientists should be ready to debunk controversies for the benefit of users.

The Population Council (2012) notes that the media industry has advanced in developing countries; it has the sophistication in communication strategy and evidence-based approaches, resulting in higher-quality FP programs. Part of the concern of this study was to explore ways adopted by the scientists and RCC in promoting uptake of FP. Kenya has made FP a component in the realization UHC (Mvurya, 2020). BCC programs are the most widely used means of disseminating FP messages in developing countries, including Kenya (Population Council, 2012). Such programs appeal to people's aspirations, provide factual information and seek to dispel myths and misconceptions surrounding FP methods. These are some of the strategies that have been adopted in promoting FP in Turkana County by scientists. Despite the efforts put forth in these programs, misinformation still finds its way to the populace leading to prolonged controversies and even rejection of FP services. In line with this, scientists were requested to indicate how they handle controversies and rejection of FP services by potential users. Their responses included;

Attempts have been made before to counter controversies and rejection of FP ...like calling a presser, publishing reports and giving replies in the papers...apart from that we also research and testing of our results to ascertain reliability and safety of FP drugs (KI 001).

The scientists are aware of controversies and rejection of FP in some instances and have taken steps to counter them. However, the measures taken are not assertive and as such they are overwhelmed by controversies. The implication is that damage would have been caused and a significant populace will not believe the scientists at this point.

The GoK in conjunction with private organizations have adopted various campaign programmes aimed at reaching different audience. They operate at levels such as communities, individuals, service providers and advocacy within policy-makers. Advocacy communication is aimed at influencing the opinions and decisions of policymakers regarding laws, regulations, and other structural factors that affect

contraceptive use (Population Council, 2012). A number of the GoK policy documents place a strong emphasis on the important role of social and behaviour communication change (SBCC) in improving Reproductive Health/FP behaviours and health outputs (Ministry of Public Health and Sanitation, 2010). These include *FP Guidelines for Service Providers, Youth Reproductive Health Policy*

The researcher sought to know whether scientists in Turkana County incorporate these programs as outlined by the Population Council (2012) when carrying out promotion of FP in Turkana. Scientists intimated that;

As doctors (scientists), we sensitize the locals on the significance of having smaller families...linking it with assurance of better economy and healthcare in their families (KI 002).

Scientists were aware of showing connection between adoption of FP and better healthcare and economy of the locals. They do this by linking a better future with adoption of FP. These programs appeal to aspirations of the audience (Population Council, 2012). Messages in this category include sensitizing the people with information such as smaller family ensures quality life of both the children and the parents. Capitalizing on the benefits of accepting FP, the parents are informed that they can comfortably provide for the needs of the children without necessarily overstressing the available resources. While the aspiration of many couples is to meet the needs of their family without ‘begging’, adoption of FP is thought to easily find acceptance.

According to the Population Council (2012), provision of factual FP information facilitates contraceptive adoption. The researcher enquired about this from scientists and the revelations included;

Adoption of FP is dependent on information provided to the potential users everywhere...it is the right of users also to know about the side effects of the methods ... (KI 003).

The above information concurs with BCC programs championed by Population Council (2012). It insists on factual information that facilitates contraceptive adoption, including types of methods, safety, sources of supply, and management of side effects. A lot of controversies have rocked FP services due to misinformation. Several barriers to uptake of FP, such as perceived and actual side effects of contraceptive methods, can be circumvented through science communication (Ochako *et al.*, 2015). A key to avoiding controversies surrounding FP services is the provision of factual information through effective communication delivered from trusted sources.

The researcher further inquired from key informants on science whether their communication programs sought to dispel myths and misconceptions surrounding FP.

Responses included;

FP campaigns have been marred by myths and misconceptions...but we are keen to dispel them by use of truthful information about FP methods we promote in Turkana County (KI 001).

This information compares with that of Population Council (2012), which provides that communication programs seek to dispel myths and misconceptions. Barriers based on myths and misconceptions such as fear that a particular method would render them (clients) infertile (NCPD, 2013) can be dispelled through effective communication. Owing to the fact that there are various sources harbouring vested interests, it is unlikely that information reaching the target would be similar.

BCC programs as proposed by Population Council (2012), seek to motivate the intended audience to action. The researcher thus sought to know whether scientists in Turkana County applied this when promoting FP.

Women of reproductive age are the target of our FP campaigns ...we constantly encourage them to share this information with their

husbands so as not to risk exposing them to challenges of gender-based violence (KI 001).

Yet another scientist informed that:

we give FP information with an aim of bringing more women under FP programs...we inspire them to regularly visit clinics for FP information; how to use and mitigate side effects without necessarily having to discontinue them (KI 001).

The above responses from scientists reflect the prescription of Population Council (2012), on how BCC works. The BCC programs encouraged target individuals to discuss FP with their spouse or partner, visit a clinic or community worker, initiate use of a contraceptive method, and manage side effects should they occur, rather than discontinue use. Once a couple received information on FP, they should be in a position to implement.

BCC comprises four main channels of communication: mass media, community mobilization, interpersonal communication/counselling, and electronic media (Bertrand, Merritt, and Saffitz 2011). Although a given country, program, or organization may rely more heavily on one of these channels, the most comprehensive and potentially effective BCC programs used most or all of them in a complementary manner (Population Council, 2012). In Kenya, the most common intervention program is mass media. This could be attributed to a high number of audience commanded by these sources. Print media, broadcast and health workers have been utilized to deliver FP messages in Kenya by the MoH. In Turkana County, scientists were also using the means to deliver FP messages as shown in the discussion above.

Interpersonal communication/counselling often occur in an institutional setting, such as a clinic, school or workplace (Population Council, 2012). An extension of counselling has been a norm in Kenya when FP advocates organize peer-education programs with a target audience. Health experts in FP firstly identify the prevalent barriers to uptake

of FP services then use such forums as workshops, market places or schools to address them. It is normally a platform in which the clients interact directly with the experts and their fears addressed directly and immediately “in clinics we are given various AFP methods from which one can choose...they (scientists) explain to us oh how to use them” (FGD 003). Sessions of questions and answers were considered important in elaborating on FP issues and responding to concerns of the clients. Health experts maximize on such forums since it is a kind of a dialogue approach to health issues with the non-expert communities.

Electronic media include text messaging, internet counselling, social networking, and related modes of communication via cell phones or the internet. Majority of those active in internet usage are the youth, therefore messages meant to promote FP can be posted online for them. However, this means is expensive; it does not provide wide coverage since it requires internet access and literacy skills.

Currently, a complementary approach has been in use since it is the most effective in terms of reaching a wider audience. For instance, a government agency in charge of promoting FP services such as NCPD can partner with a local radio station in Turkana to publicize, and a banking institution, to organize a recreational activity such as a walk or a marathon in promotion of FP.

3.3 RCC Handling of Scientific Information

The RCC relies on Church doctrines for information to guide decision making and Church communication on every issue. There are a range of scientific and technological contributions to development in the world that have elicited concerns from the RCC. Global warming, abortion, pollution, FP, organ transplant, loss of bio-diversity, genetic engineering and surrogacy are some of the major issues which have sustained

controversy to the present. These topics have thrown health experts and ethical watchdogs such as the Church into having dichotomies due to lack of sustained proper scientific discussions. The RCC has responded to such issues through issuance of various documents, especially encyclical letters by the head of the Catholic Church that have consistent approach to specific themes. Information in the RCC is relayed from the Pope down to their faithful and the public at large through publication which can then be communicated to the faithful through oral means during mass services.

An interview conducted by the researcher with a clergy in the field who was a key informant revealed that RCC has various means of getting messages on any topic, including FP, to its faithful. This can be categorized into three:

First is the oral message “the pulpit is the major forum for dissemination where both the scientists and the lay men are reached with the message” (KI 002). The speaker, usually the clergy, when giving a sermon uses the pulpit to express the position of the RCC on specific topics to guide their faithful. Messages from the Pope guiding the RCC are also read to the faithful.

Second is written message “worldwide the RCC has a publication department which is tasked with the production of written copies detailing the stand of RCC or its report on any issue that arises” (KI 002). The Publication Department produces materials such as encyclical letters such as *Humanae Vitae*, On Human Life, ‘Apostolic Letters’, Apostolic Exhortation such as ‘The Joy of Love: On Love in the Family’, and Catechisms. They also have a newspaper known as ‘The Catholic Mirror’.

Third are electronic messages “infact the RCC also has active websites where its faithful or interested persons can access information about the Church and on topics the

RCC has commented on” (KI 002). Encyclicals issued by the prelates are also found online to be read by as many readers as possible in sites such as the CNS.

The Kenya Conference of Catholic Bishops (KCCB) which presides as the shepherds of the Catholic Church in Kenya has several established commissions with specific mandates. One of the commissions is the Catholic Health Commission of Kenya (CHCK) with the mandate of providing leadership on emerging health challenges. As presented in Chapter One, the information from the RCC touching on tetanus vaccine controversy then was handled by CHCK. Examples of documents and encyclicals published by the RCC to address issues of FP abound. They include: *Humanae Vitae* (1968), *Familiaris Consortio* (1982) and *Standards* (2010)

3.3.1 *Humanae Vitae* (1968)

In recognition of the rapid demographic development which triggered fears of sustainability in the face of meagre resources among nations of the world. The Pope who is the head of the Catholic Church, gave a response in line with God’s revelation about uniqueness of human life. Pope Paul VI in 1968 issued an encyclical letter, *Humanae Vitae*, in response to the pressing questions touching on the regulation of birth. This is in agreement with the data gotten from RCC key informant who confirmed that RCC does not oppose FP as referred to in Chapter One indicate. On further probing, the respondent singled out the encyclical letter, *Humanae Vitae* states that:

The Catholic Church is not against FP ... the Pope in issuing Humanae Vitae advocated for adoption of NFP thus opposing AFP. Opposition to AFP was due to the fact that it promotes use of contraceptives such as use of condoms...as a means to achieving birth control... (KI 001).

The document stresses the inseparability of human sexual activity with nature and dignity of human life and the transmission of that life. The direct interruption of the generative process is to be absolutely excluded as lawful means of regulating the

number of children (HV 14). Processes that do not promote dignity of human life or that are preventive of transmission of human life are condemned. The document prohibits any form of contraception and artificial FP as advocated by majority of advocates of FP.

3.3.2 Standards (2010)

The researcher noted from RCC key informants that there existed various materials which are valuable for guiding their faithful. Some resources have been formulated in one part of the world for their use but its utility can extend to other regions hosting their faithful. This was noted in the case of the *Standards* whereby the RCC key informant alluded that;

...our teachings are derived from key publications of the Church such as Humanae Vitae and Standards as for birth control...we as clergy are aware of their teachings and we inform our faithful using these materials ... (RCC key informant 003).

The language suggests that the RCC has various resources at her disposal to guide on issues and the clergy are informed. The *Standards for the Diocesan Natural FP Ministry (2010)* popularly known as the *Standards* is a publication of the United States Conference of Catholic Bishops motivated by the need for a nationally consistent and systematic training of NFP teachers in the United States of America. The document was formulated in accordance with the Catholic moral and sacramental teaching on human sexuality, marriage and family life. The NFP experts worked jointly with the members selected from the NFP Program which provides national leadership and assistance in the NFP ministry for the Catholic dioceses in the USA. The *Standards* target married and engaged couples with quality NFP services covering competent education in line with Catholic doctrines. In matters of sexual intercourse, the RCC teaches that there is an inseparable connection between the two meanings of the act of intercourse- love-giving (unitive) and the life-giving (procreative). In line with this teaching

contraception use is prohibited. The publication of *Standards* is a challenge to the RCC in Turkana County to also come up with their own that is more focused on FP and targeting the RCC faithful.

The RCC has a number of news outlets that serve to present their stand and view on a number of issues especially those related to sacredness of human life. Examples of such outlets include:

Catholic News Service (CNA). During the COVID-19 period, Kenya witnessed an unprecedented upsurge in pregnancies among teenage girls. In order to mitigate the challenge, the GoK sought to introduce comprehensive sex education in schools and the legalization of abortion to which the KCCB of RCC warned against (Bank & Eftekhari, 2020). According to KCCB, the resultant teenage pregnancies and minors' exploitation can be averted through provision of proper family values and parental responsibilities on nurturing and safeguarding. The news outlet advocates for a solution to alarming figures of teenage pregnancies- of whom a majority are school-going, from within the family; safeguarding all children. On the same topic, the RCC voice was also made clear when the national broadcaster aired a live service from Holy Family Basilica where the presiding Bishop termed the Reproductive Health Bill as unconstitutional. The bill seeks to introduce adolescent friendly reproductive and sexual health information and education. According to RCC, sex education ought to be provided to learners while considering the manner of dissemination and their age.

During the 25th anniversary of the International Conference on Population and Development (ICPD) which was held in Nairobi in 2019, the summit tackled sexual and reproductive rights of women, among others. It identified abortion as vital towards attainment of those rights. The RCC, alongside other players such as diplomats,

scholars and youth leaders, raised their concerns while opposing the resolutions of the Nairobi Summit saying they ran contrary to African culture and their religious beliefs.

The RCC has released a number of pastoral letters to guide on challenges facing the Church family. For instance, the KCCB issued *Lineamenta* (Pastoral guidelines for a process of discussion in action). The pastoral letter identifies challenges and provides pastoral solutions to family and marriages in Kenya today. The letter singles out threats facing families and responding to them in light of the Gospel. It contains varied issues guiding the catholic faithful on how they should respond and what the Church has always stood for. For instance, on Q 40 regarding care for gay persons, the letter advises RCC faithful to “never judge or condemn them, but help the person to be aware and get out of the behaviour by referring them to trained people to deal with their issues” (L, Q 40). The pastoral letter is intended to reach all Catholic faithful.

The RCC also makes press statements on a number of occasions to clarify her stand, especially when controversies rock a subject at hand. For instance, the GoK carried out a mass tetanus vaccination programme in 2014. Surprisingly, the RCC had their own reservations. RCC in Kenya responded through issuing a “Statement by the KCCB on Mass Tetanus Vaccination Campaign carried out in Kenya in March and October 2014”. In their press statement, the KCCB made their stand clear, that the vaccines used for mass tetanus vaccination campaigns in March and October of 2014 contained some vials laced with beta HCG. These finding were informed by the independent sampling by the Catholic Church and testing in different laboratories in Kenya (KCCB, 2015). According to KCCB (2014);

When injected as a vaccine to a non-pregnant woman, this Beta Human Chorionic Gonadotropin (HCG) sub-unit combined with tetanus taxoid develops antibodies against tetanus and HCG so that if a woman’s egg becomes fertilized, her own natural HCG will be destroyed rendering her permanently infertile. In this situation tetanus

vaccination has been used as a birth control method. (Catholic Health Commission-KCCB, 2014)

The outcome of research done by the RCC indicated hidden agenda by the GoK to introduce unconsented birth control on women. Going forward, the Catholic Church insisted that no further mass tetanus vaccination should be undertaken in Kenya before the vaccines had been appropriately tested and proven to be safe.

The Catholic Church commands a following of 23% in Kenya (SoftKenya, 2012) hence it could convince a significant number Kenyans into boycotting the vaccination program. Njeru (2016) observed that the vaccination programme against polio in 2015 stood at 93%. According to the WHO standards, this is regarded as successful when less than 10% of the targeted population is missed (Okeibunor, 2014). These figures suggest that among those who turned up for vaccination were RCC faithful but chose to side with the government's vaccination program.

It is apparent that there exist perennial and competing interests among the stakeholders involved in the promotion of a service. Bio-technology innovations such as genetically modified organisms (GMOs) are operated by profit-driven companies. This orientation receives preferential treatment than the safety of the services they offer because of their economic value. A lot of information about GMOs may contain bias since the technology producer companies which want to sell their products are the main interested generating this data (Newmann & Albuquerque, 2018). In Turkana County, the government and some NGOs have been aggressive in promoting AFP only as a form of FP to the neglect of AFP . One clergy made a revelation that;

... the stakeholders ought to be transparent and honest when it comes to handling FP ...some of them are after money from donors in support of AFP hence they care less about the safety and reliability of drugs... (Key informant 002).

Although the suspicions held by the Church may not be unfounded, it is upon the stakeholders of FP services to come forth and lay bare all the facts. According to Alkema *et al.*, (2013) as reported in Oller *et al.*, (2017), WHO, which is one of the organs of the United Nations, has been pursuing a long-term goal of reducing world-wide population growth primarily through “family planning” and contraception. The point of contention between the opposing sides, WHO and Ministry of Health on one side and RCC on the other, is birth control through contraception. The position of the RCC is informed by the divine plan of God, the creator, contained in Church traditions and have gone a step ahead to justify their claims using their own researchers; Kenya Catholic Doctors Association (KCDA), to prove how laced the vaccines were. On the other hand, the government and partnering organizations are keen to attain their target goals backed by scientific research.

The avenues used by the Catholic Church to get their information out to the public are limited as compared to those used by the scientists who mostly side with the government. This is unlike the scientists and government which have strong machinery enough to mobilize resources within the shortest time. Considering the huge disparities in resources acquisition and dissemination capacity, the government stands to win a significant majority against the Catholic Church.

3.4 Summary

In summary, science and religion are two domains of knowledge that have both incorporated distinct communication programs in their work. The domain of science is research-oriented and thus it is characterised by experimentation of new developments such as bio-technology. As an ever-advancing field, science has incorporated new techniques in their work such as science communication so as to reduce the gap between scientists and the lay public. It is an attempt to make scientists to climb down from their

ivory tower and engage the public. Scientists have had backing from the government in utilizing their dissemination machinery such as the mass media in addition to their publications and seminars, to reach a vast majority. Furthermore, scientists have incorporated BCC programs to boost quality of their programs. RCC on the other hand has its own reservoirs of knowledge derived from Church's tradition which sometimes are at loggerheads with the findings of science. RCC has publications such as *Humanae Vitae* to guide on birth control and the clergy uses the pulpit to reach out to their faithful. It is worth noting that, new technologies by science have brought forth unforeseen developments which have resulted in controversies that only serve to promote dichotomy between the two domains. Still, cooperation between the Church and science in the subject of FP is possible using the Dialogue Model as discussed in the next chapter.

CHAPTER FOUR

AREAS OF CONTROVERSY BETWEEN SCIENCE AND RELIGION ON FP

IN TURKANA COUNTY

4.0 Introduction

This chapter examines controversies that have rocked science and religion on the topic of FP. It begins by reviewing models of relating the two. It seems scientists and religionists are uncertain over which model to subscribe to.

4.1 Models of Relating Science and Religion

It is worth noting that the new scientific and technological advances have religious and cultural implications. More often, the religious adherents confirm with their religious convictions whether the new developments are palatable with their belief or not, before making decisions. In Turkana County, the RCC through its clergy has influenced the attitudes of their members against the uptake of AFP. One key informant from RCC suggested that;

“RCC support NFP for birth control but not AFP that allows use of contraceptives such as condoms which are a misuse to the gift and sacredness of sex” (KI 002).

The RCC’s perception about matters of sex is derived from biblical verses which dictate two roles: procreative and unitive. Procreative aspect entails sex having a purpose or goal of achieving pregnancy. Unitive role involves use of sex for companionship. It teaches that AFP does not contribute to the achievement of the two roles; any role other than the two is interference of the sacredness of sex.

Barbour (1993) and Sweetman (2010) have grouped the models of relating science and religion into four: conflict, independence, dialogue and integration. The next section discusses the models.

4.1.1 Conflict model

The researcher sought to know the position and understanding of scientists and RCC regarding FP basing on the Conflict Model. A key science respondent intimated that;

“Conflicts emerge because science is driven by research ...experimentation and testing must be done on any claim to ascertain the truth...but because that is not the case with the Church, some of our findings conflict with their doctrinal beliefs” (KI 004

On their part, the clergy responded to the conflict as follows:

“We believe in the infallibility of the scripture. RCC approaches everything under guidance from biblical scriptures and Church traditions, not from findings of scientists” (KI 001).

The above claims indicate existence of conflict that emerges when scientists rely on experimentation while the RCC relies on biblical scriptures and Church traditions to test truth. The conflict emerges when some biblical stories cannot be reconciled with scientific truths. The miracles in the Bible cannot be tested scientifically.

This model is based on the basic assumption that religion and science are historically in conflict with each other fighting for domination. Barbour (1993) observes that both (science and religion) seek knowledge with scientists, appealing to science whereas religionists appeal to infallibility of the scripture. Incompatibility of science and religion is motivated by irreconcilable claims whereby religious claims cannot be reconciled by scientific claims (Sweetman, 2010). Proponents of this model argue that, one has to choose between religious truth and scientific truth.

The fundamental of science is verification and experimentation. Appeals to mystery, the mystical and to the supernatural are excluded as a matter of principle because they are inherently irrational and unscientific (Pearce, 2017). According to science, the phenomenon of miracles cannot be explained by known laws of nature. The miracles in the Bible cannot be tested scientifically, but faith adherents are required to believe

and accept such acts as performed by God without questioning or needing to provide evidence for it (Afisi, 2018). The foregoing raises a dilemma since adherence to one negates the other. It is opined through the model that, scientific theories and advances that are not in conformity with religious aspects of a people should be revised. Incompatibility is manifested in the scientific method as well as the methods of religion (Sweetman, 2010). The foregoing promotes ‘conflict’ based on scientific materialism (Barbour, 1993) whereby science ‘swallows’ religion and vice versa. Nevertheless, toleration can be made between “science and religion, in their distinctive approaches to understanding reality, which can promote positive dialogue among them” (Francis, 2015, p. 18).

4.1.2 Dialogue model

The study sought to know whether dialogue was possible between RCC and scientists on the position of FP. Respondents in this study acknowledged the need for such model through sentiments such as;

“scientific related topics such as FP would not receive opposition from RCC if there was a common ground for engagement between us and them” (KI 002).

Another scientist commented;

“Understanding between scientists and the RCC is possible through discussion...each faction has a point to prove” (KI 004).

The RCC also showed willingness for discussion with scientists on FP by stating;

“Scientists have their own reasons for AFP but we have our own reservations...we would like them to know” (KI 004).

Sentiments made by key informants in the study suggest that absence of forums for engagements on such topic as FP contribute to the controversies and eventual opposition to scientific products. Also, each group has its own grounds for supporting or rejecting a product.

This model advocates for an open way in which science and religion can support each other in their quest for understanding reality. The dialogue model (Sweetman, 2010) holds that, science and religion can help each other in a mutually beneficial way; that is not inherently in conflict. Proponents of this model opine that, science can be of help in addressing challenges facing humanity without posing any threats to religion. Theologians see scientists as co-creators with God through their innovations. God is reflected in nature. The dialogue model accommodates uniqueness of each group (religion and science) and promotes mutual understanding between them.

The participants in the study showed willingness to embrace dialogue on FP because both are for human progress. The difference between scientific and religious statements cannot be reduced to the difference between sense and nonsense, because theological statements are extremely meaningful, just like scientific ones (Susnjic, 2012). Engagement through dialogue will lead to both groups appreciating the noble role played by each and promotion of each other while eliminating mistrusts and suspicions.

4.1.3 Independence model

According to Barbour (1993), one way to avoid conflicts between science and religion is to view the two enterprises as totally independent and autonomous because, each has its own distinctive domain and its characteristic methods that can be justified on its own terms. It was suggested through one of the FGDs that;

“Conflicts are not necessary and are avoidable when each (scientists and RCC) stuck to their ways...let scientists do their own research without attacking RCC and in the end we as locals decide for ourselves” (FGD 003).

From the foregoing, participants acknowledged the need for distinction between the scientists and RCC and calls for independence in their works. However, clashing comes in when the findings of one spill over to the domain of the other, begging the question,

where is a clear cut between science and religion? Science prides itself in research whereas religion is in matters of faith.

This model holds that science and religion have distinctive boundaries and neither should look into the affairs of the other. This means that religionists should practise their faith without being worried or concerned about implications to science (Sweetman, 2010). At the same time, they should not be worried over scientific theories that seem to be antireligious. This means that they should not be worried over scientific claims that human beings belong to *hominidae* class which has evolved from ape-like *aegyptopithecus* to *Homo sapiens sapiens*. Similarly, scientist should only be concerned with their theories and methods without crossing over to other jurisdictions because they have little knowledge and expertise or authority over those areas. The model however falls short of its application in the face of new scientific developments that have religious implications such as use of contraceptives for FP.

4.1.4 Integration model

Advocates of this model hold that content of science and religion can possibly be integrated. Some of the participants held views in support of this model such as;

“science and religion (RCC) have existed for long in Turkana hence they should continue in their mutual relations ... they both need each other... compromise should be made instead of total fall out because as locals we need all of them for progress” (FGD 001).

The above revelation suggests co-existence between science and religion. It also points to a recognition of their significance. Indeed, the RCC stands to give ethics to scientific products so that human progress does not become superior to ethics of the society. Some scientific products would be disastrous to human if their ethical conditions are ignored.

Barbour (1993) proposes three distinct versions of this integration: natural theology, theology of nature and systematic synthesis. He further argues that human reason can

use nature theology to explain the existence of God. An assumption is made that for everything that exists, there must be a cause and the ultimate causer is God. According to theology of nature, the basis is religious tradition founded on religious experience and historical revelation. If religious beliefs are to be in harmony with scientific knowledge, some adjustments or modifications are called for (Barbour, 1993). This means that our attitude towards nature is dependent on our understanding of God's relation to nature which informs our environmental ethics. Further, systematic synthesis holds that an inclusive conceptual scheme between religion and science can represent the fundamental characteristics of all events. The foregoing promotes dualism for reflection of experience such as spirit/matter, finite/infinite and mind/body among others. Here, the existence of one not only suggests the existence of the other but it also promotes. The integration model champions for understanding between the two and as argued by Susnjic (2012), science and religion are two different paths leading the humans towards the truth about themselves and their world. While applying this model to FP, NFP would suggest existence of AFP which in turn has higher effectiveness than the former.

The models discussed above have a bearing on FP. The findings from Turkana County suggest that, the conflicts between the two exist and can be averted or amicably solved through dialogue. It would be necessary to evaluate some of the conflicts that have been witnessed between scientists and RCC over scientific and technological products so as to provide a basis for understanding the nature of controversy between them on FP.

4.2 Controversies Rocking the Relationship between Science and Religion

The second objective that the study sought to achieve was on areas of controversy between the scientists and the RCC in Turkana County on the topic of FP. In order to

achieve this objective, the researcher interviewed participants on what they thought was an area of contention between scientists and RCC on FP.

4.2.1 Onset of Human Life

It was established through interrogation that the onset of human life was a source of controversy between scientists and the RCC. Such were the responses;

“RCC stands for NFP ...life starts at conception...sexual act is a sacred act because God is involved in the very act... from that act, creation begins there...but science through AFP permits termination of human life” (KI 002).

Upon further interrogation, the clergy claimed that:

“life starts at conception...the foetus has life though not yet born...but scientists view the foetus as not a living human until it is born and can be done away with by the carrier” (KI 002).

The RCC considers onset of human life at conception while scientists have a different view. This view is a reason why RCC does not approve AFP. According to RCC claims, human life begins at conception but most methods of AFP are abortifacient; they kill human life. Certain AFP methods, especially condom use, work by preventing conception and so it is not abortifacient, but the RCC does not approve. The RCC argues that it is not natural but still we use a lot of unnatural things such as shoes; is it bad to prevent injuries using shoes? The clergy is suspicious of scientists on this matter of onset as one claimed that “the scientist’s definition of the foetus is designed to suit and achieve a purpose...allowing abortion” (KI 004). The dogmatic approach to the onset of human life adopted by the RCC does not encourage discourse with scientists about it.

4.2.2 Nature of FP

As it has been noted, the RCC is not opposed to birth control, and this motivated the research to establish its concerns about FP. Among those interviewed, their responses included:

“The Pope in issuing Humanae Vitae supported FP ...which is achievable through NFP ...but scientists introduced AFP which is not natural” (KI 001).

Yet another RCC clergy commented;

“RCC supports NFP for FP but not AFP ...because NFP does not interfere with the human body, but AFP is anti-God and is not natural” (KI 003).

The researcher established that RCC accepts the call for FP. From the responses given, RCC clergy is aware of the document that guides the faithful on matters of birth control. The clergy noted that FP is achievable through the natural methods categorised as NFP, hence no need for AFP.

The researcher sought to know from scientists their understanding concerning the nature of FP, citing concerns of RCC. They considered below response:

“as scientists, not only here in Turkana, we see no distinction between what is natural and what is not natural...in fact by having AFP , we are being co-creators with God” (KI 002).

Another scientist also commented:

“FP is a gift from God...if anything that is not natural is anti-God, then how would humans develop? Diversifying methods of FP is driven by the desire to have a method that is effective, and so far AFP is more appropriate than NFP” (KI 003).

From the above responses, scientists do not make a distinction between what is natural and what is not natural. The engine of science is research, and for this reason, they are empowered to come up with better and effective ways of achieving FP. Profiling scientific products as either natural or not will limit human development. Humanity

would be prone to threats, which we had rather resolved through science. The findings revealed that scientists and RCC differ on the contents of a method used to achieve FP. As shown earlier, there are two types of FP; AFP and NFP and are advocated for by scientists and RCC respectively. However, RCC is critical of AFP and does not encourage its faithful to use them for birth control. The study established that controversy on FP in Turkana County is on the type of method to use.

4.2.3 Purpose of Sex

Upon the discovery that controversy on FP emerges out of the differences in methods applied, the researcher sought to know more about the variations responsible for these controversies. Upon interrogation, the respondents noted that:

“RCC treats sex as sacred and the origin is God... the maker had a defined plan for sex and that is procreation as a primary end...pleasure comes as secondary” (KI 002).

Another clergy had the following to note:

“NFP upholds the original purpose of sex...but AFP destroys that through introduction of procedures that are irreversible once they are performed on a person’s body, for example male vasectomy” (KI 004).

The researcher subjected scientists to the controversy touching on the purpose of sex.

The following responses were given:

“Still, we make no distinction between primary and secondary ends of FP ...whether it is for procreation or pleasure, it helps one to achieve proper life” (KI 002).

The responses above show that RCC treats sex as sacred whose origin is God. They also claim that the purpose of sex according to the Creator is for procreation, but such ends as pleasure do not promote its dignity. The RCC teaches that procreation is the primary end of marriage but it also recognises companionship as the secondary end of marital sex. Perhaps the RCC is careful not to refer to sexual pleasure lest it is misconstrued to mean that the Church approves of sex outside marriage. The response

also points to the claim that some of the AFP methods are regrettably irreversible. The scientists do not make a distinction on the purpose of sex, so that achievement of proper life becomes paramount. The consumers of FP lament being left confused on the ideal method when the promoters- RCC and scientists, do not agree. This is further made difficult bearing in mind that literacy levels of a majority of prospective users are low, as earlier shown. The scientists and RCC clergy are learned and have a better understanding of FP methods, but the users are less privileged academically. When scientists promote AFP and RCC goes for NFP, the Turkana woman is left more confused as shown by the following sentiments made by some of them:

“scientists tell us to use AFP ...RCC says it is NFP ...we end up a bit confused on whom to believe and follow...some of us end up making undesired choices” (FGD 002).

The researcher also noted that the controversy lands on the users, as revealed in the response below:

“Both scientists and RCC are promoters of FP ...but there is a sharp contrast when they don’t agree on the type of FP to be practised. The mention of side effects of one method and less effectiveness of another further complicates the whole thing on FP ...but we want a method that does not put us to dangerous health risks” (FGD 003).

The above observations link the confusion to the demerits associated with both AFP and NFP. As earlier noted, both methods of FP have their own weaknesses; neither has one hundred percent effectiveness. At the mid of this confusion, the participants revealed that they would opt to listen to other voices.

“When scientists and RCC do not agree on the type of FP to be adopted by users in Turkana, we resort to hearing from the mass media” (FGD 003).

The participants of FGDs confirmed to relying on the mass media to get information on FP and the type of FP to use. However, the mass media appeared to be biased as was shown by sentiments like the ones below;

“we hear from the radio telling us to practise FP using methods that clinics encourage us to use...they also tell us to visit a clinic and see a doctor for any FP services”(FGD 001).

The above sentiment is in support of listening to the scientists on the type of FP to use, leaving out the RCC. The users also confirmed that the methods promoted by the media are same as those promoted in the clinics when they visit them for FP services. It is worth noting that, the RCC has its radio outlet called Radio Akicha. The IPMI Theory argues that, people perceive media as influential and this shape their reaction to the media. From this theory, online readers who come in contact with FP information would either adopt or reject it based on their perception of the media. Some readers put their trust on certain media outlets and their messages find wide acceptance amongst them.

During interviews with RCC key informants, the clergy suggested that, there is no controversy with regard to the end of practising FP but the means to that end. Achieving maternal health, balanced development and avoiding unintended pregnancies, is the end goal of FP.

4.2.4 Ethical Issues of Family Planning

Both scientists and RCC have their own reasons for clinging to an FP method and opposing the other one, and at the centre of controversy were moral issues arising out of some AFP procedures, as shown in the following revelations:

“RCC advocates for NFP for birth control, this method promotes the gift and sacredness of sex and they have no known side effects and are effective when properly applied” (KI 001).

RCC key informant observed that;

“What is controversial is that some FP methods, especially AFP, have moral issues in them. Sterilization, for instance, is permanent, and when performed, it permanently interferes and destroys the beauty of the body...and on such grounds, we oppose AFP” (KI 003).

According to RCC, the creator's design for sex is good and any alteration destroys that beauty. The reasons that the RCC respondents cite about what is controversial concurs with the findings of a study done by Nakiboneka and Maniple (2008) that RCC opposes AFP methods on fundamental grounds discussed in Chapter One. The RCC considers that, some of the procedures involved in AFP are irreversible and interfere with the human body. It is worth noting that the RCC's position lies within the biblical provisions, writings of the Church Fathers and the Church tradition.

Scientists also had reasons for advocating for AFP while countering moral issues raised by the RCC. They argued that:

“FP is achievable, and the method that has higher chances of this is AFP ... AFP is highly effective...and it is within the inalienable rights of an individual to pursue any” (KI 002).

From the above observation, scientists promote AFP which have been found to be effective hence are preferred choice for achieving FP. Scientists place the choice of AFP by a member as part of exercising her rights as guaranteed in the constitution. In spite of being one's right to make a decision, a sound one cannot be made with inadequate information. Though scientists have not dismissed NFP openly, they do not encourage their use because they are 'not ideal' for FP.

4.2.5 Side effects of FP

From the findings of the study, it was revealed that controversies arise due to side effects and inadequate information on FP methods. The respondents in the study pointed out that:

“Inadequate information about an FP method creates room to the much-hyped side effects ... the severity (of side effects) being spread is not accurate, but the motive is usually to discourage potential users” (KI 002).

The researcher obtained the following through one of the FGDs:

“majority of us cannot read and understand FP messages on the flyers...getting intended meaning and understanding out of a chart FP method is a challenge...some charts give mixed messages” (FGD 001).

The above responses suggest that there is a connection between limited information about a method and the side effects. Both spark controversies because users are concerned about the safety of the methods, and the populace stands to lose. Low literacy levels leave room for misunderstanding and misinterpretation of pictures by the clients. Some of the much hyped side effects are founded. This calls for scientists to play the pivotal role of circumventing them through science communication as shown in the previous chapter. The scientists acknowledge the presence of side effects but claim is *minimal and can be managed by a qualified medical practitioner*. Prospective users ought to be given all the necessary information about a method before they make a choice of their own. The RCC clergy claimed that “residents have a right to truthful information about any FP method. Any appeal should be based on truth” (KI 001). Through FGD, respondents called for feedback on any question touching on FP (FGD 003). Health experts claimed that, “giving full information about FP methods and providing alternatives is the right of a client” (KI 002). There is a consensus between scientists and RCC clergy that, prospective users have a right to access factual information and consequently make a decision without coercion. FP methods and services are prone to controversies when the prospective users are not given full information and when the sources provide conflicting information.

4.2.6 Readers’ Uncivil Online Comments

Some scholars in the field of science have raised concerns that readers’ uncivil online comments following scientific information on social media can polarize perceptions of risks associated with a technology (Anderson, 2013) and even bias perceptions of

source and message credibility (Elaine, 2005). This concurs with the revelation made by a scientist that:

“Most people have formed their opinions towards scientific and technological products like on AFP methods based on what they have read online. But anything can be posted online and a lot is unverified information, safe for some sites...someone may be expressing his dissatisfaction over a specific method” (KI 002).

The above observation points to controversies emanating out of what was posted online. With wide internet connectivity, most people access a lot of information from various platforms and a lot is unverified and might be misleading to the readers.

However, frequent interactions with reporters can increase the visibility and popularity of a scientist and his or her work, as they are more likely to be referenced in journalistic narratives (Liang *et. al.*, 2014). Such narratives can boost the information transmission from scientific literature to the scientific community and, further, to the general public, while gaining more citations by fellow scholars (Kiernan, 2003). The Royal Society (2006) highlights that, scientific publications serve the important role of bringing in departmental funding which enhances a successful scientific career.

The controversy between scientists and RCC can also be explained through Functionalist Theory of religion which holds that religion has a strong social and personal influence and control over believers. In this case, religious teachings, beliefs and practices influence the behaviour of a people. According to the theory, these teachings, beliefs and practices are strong enough to influence the adoption or rejection of new innovations. Thus, an innovation or a new behaviour is likely to be rejected by the people if it is disapproved by an established religious group or institution that has powerful influence on them. This explains why the Catholic faithful are likely to reject the practice of AFP, which is disapproved by their Church (Kavivya. 2003). The AFP can be concluded to be opposed by RCC, because of going contrary to her beliefs,

teachings and practices. She holds that AFP is immoral and sinful. Basing on this theory, scientists need to consider the practices, beliefs and teachings of RCC when handling scientific or technological topics that may draw opposition from them. This can be handled through incorporation of science communication in the work of scientists.

4.3 Summary

This chapter aimed at answering the question on the areas of controversy between scientists and RCC with respect to FP in Turkana County. It concludes that scientists and RCC both agree to birth control but they differ on the means towards achieving that end. The RCC accepts FP whose provisions are based on biblical teachings. It was established that, any controversial scientific matter that is not consistent with the teachings of the RCC will always suffer opposition. It was revealed that, on the matters of FP in Turkana County, the controversy lies on the contents of the FP method. It seemed that on the ground, scientists advocated for AFP whereas RCC advocated for NFP. Scientists capitalized on the strengths of AFP including accuracy in meeting their end. The RCC stood her ground on morals against AFP and their associated side effects. Therefore, they cautioned their faithful against using them. It was also noted that there was limited information and knowledge over new technologies and consequential myths, or misconceptions hinder the uptake of FP.

CHAPTER FIVE

BARRIERS TO COMMUNICATION BETWEEN SCIENTISTS AND ROMAN CATHOLIC CHURCH ON FP IN TURKANA COUNTY

5.0 Introduction

Scientists are at the forefront of every research; however, they encounter a setback in feeding the non-expert public with their findings through communication. The scientists' language, nature and scope of their work complicate their outreach programs. This chapter presents and discusses findings on barriers to communication between scientists and the RCC regarding FP.

5.1 Challenges Faced in Promoting FP in Turkana County

The answers to global challenges; energy, water, food security, urbanization, climate change, are increasingly dependent on the findings contributed by research institutes and universities' technological innovation and sound scientific advice (Aebischer, 2015). Scientific results have in some cases received a backlash from FBOs and the non-expert public. Scientists in Turkana County also faced challenges in attempts to popularize FP due to a number of reasons as discussed in the following section.

5.1.1 Absence of Science Communication

As observed in the previous works as presented in earlier chapters, the current study suggests that science communication is not yet a developed field in SSA. Science communication serves as a good avenue through which researchers are empowered to carry their findings to the public. When scientists were probed whether they had any training on science communication, some responded:

“We as scientists never had any training on science communication...there was no such course” (KI 002).

Another respondent remarked:

“we were trained by Tunza and PS Kenya on FP ...but there was no topic called science communication” (KI 001).

These responses from health experts who are in the domain of science suggest that science communication, especially in SSA is non-existent or not yet a developed field. Knowledge in science communication is critical to bridging the gap between expert and non-expert communities (Zamxaka, 2013).

5.1.2 Cultural barriers

Africa is a rich continent culturally and Kenya as an African country is inhabited by numerous ethno-linguistic groups exhibiting different cultural practices. Despite not being culturally homogenous, Kenya has attained a cultural tolerance status. Practices by various cultures are sometimes in conflict with what science advocates for. In Turkana County, culture has a compelling influence on people’s lives. Among the Turkana people, it is a taboo to share anything that touches on sex in public. FP is, therefore, not readily discussed. It was revealed in one of the FGDs that women are submissive and would only accept some scientific products with the consent of their husbands.

“it is a taboo to discuss sexual matters, including FP ...as women, we seek for permission from our husbands before using FP ... In most cases, they refuse and we have to go by that” (FGD 001).

Some cultural beliefs and practices like taboos and traditions are not accommodative of scientific findings. This results in failure of science to take root in boosting health and development within Kenyan societies. For instance, misuse of treated mosquito nets by some people to catch fish along rivers, not taking into consideration the costs incurred by the government to procure them is clear perpetuation of ignorance in matters malaria and lack of appreciation by the recipients. Similarly, some cultures are very sensitive

to blood drawing in hospitals e.g due to strong belief in black magic. In a related study done by Mokaya (2014), he found that persistent cultural and social barriers prevent women from using e.g contraceptives and weaken the demand for birth spacing and FP.

It is worth noting that rejection, or low uptake of scientific findings does not solely rest the blame on cultures and traditions of African people. A dispute arises because, science has promoted pervasive European cultures that corrupt indigenous African cultures (Tangwa, 1996). The foregoing can be justified by cases of pornographic materials available in both print and electronic media that negatively impact on the behaviour of viewers.

5.1.3 Financial constraints

Poverty levels in SSA are still very high hence access to essential services is a challenge to many seekers. Most African governments are struggling to eradicate this challenge. However, other pressing challenges such as ignorance, diseases and corruption divert their attention.

The quality of life of a people is dependent on several factors, among them, economic standards which have roots in historical economic activities practised (Diener & Suh, 1997). The financial situation of a person will determine the quality and quantity of services one can access. Better healthcare service is provided to those who can afford to pay handsomely, while those who do not would resort to alternative health care services such as herbalists. The researcher sought to know from scientists how often they hold outreaches and the response had a financial bearing;

“when resources are available...we rely on donors for funds...facilitating a whole outreach program has financial implication and we cannot manage that on our own, we need financiers” (KI 002).

The above observation suggests dependence in the provision of FP and general healthcare in Turkana County. The county is among those with high poverty index in Kenya and the locals cannot afford quality healthcare on their own.

The Kenyan healthcare system in general is still dependent on developed nations. This is evidenced by importation of Cuban doctors to provide medical services in the country despite having numerous medical and healthcare training institutions. The funding of health sector is also not adequate leading to implications such as suspension of community healthcare services and subsidized drugs. Interaction of healthcare providers with the non-expert public through outreach programs may not receive funding, explaining the wide gap between the two entities. Research institutions such as the universities are limited financially. This translates to little research done in the universities. Moreover, the implication cost of transferring new knowledge to the public also becomes a challenge. Aebischer (2015) notes that universities cannot bear the cost of research and technology transfer for lack of financial resources. This calls for government funding and collaboration between industries and research institutions.

5.1.4 Illiteracy

Response offered to information and services is dependent on literacy levels of the consumers. Low literacy levels negatively affect healthcare provision especially in rural and remote areas which are hardly accessible. The literacy levels in the study area were established to be low (as shown in the previous chapter). Respondents made revelation as follows:

“most of us dropped out of school in primary level...understanding FP information and distinguishing FP methods is a challenge to understand...scientific terms are also complex” (FGD 001).

Information in the field of health uses medical terms that are abstract or complex for an average person to decode the correct meaning. In the administration of FP services, two

main methods exist; AFP and Natural NFP. Under each category are various approaches; all this information may be confusing to the user unless effective communication is considered. Consequently, users apply their discretion which in most cases is guess work. Yet guesswork does not apply in the health care provision.

MOH (2012), made a recommendation on the need for engagement and education of communities about the risk of misinformation about FP and contraception. These engagements and education programs between healthcare providers and the non-expert public are dialogical. These are processes that would circumvent the worries of those targeted. Information on FP found in print media requires further elaboration so as to avoid chances of misinterpretation by the people.

5.1.5 Religious barriers

Culture is a people's way of life which can be expressed differently. Mbiti (1969) argued that Africans are notoriously religious. This means that in everything they do and everywhere they go, their religion accompanies them, so much so that their environment, and their world at large, is interpreted religiously. Religion and life are inseparable entities. Religion was used by Africans as a weighing machine against which new forms introduced by westernization could be accommodated or rejected.

A key informant on science observed that;

“Culture is still very strong in Turkana...children are understood in this culture to mean a blessing from Akuj (God)...having many is being wealthy...FP suffers from this understanding” (KI 002).

Another scientist explained;

“I have encountered locals who are against some FP method citing religious reasons, that their Church (RCC) does not encourage their members to use them” (KI 004).

In an increasingly interacting world aided by technology, some traditional religious practices have suffered a setback because they were overwhelmed by the pressure and influence of foreign cultures. There is a paradigm shift towards conforming to western ideologies thus neglecting indigenous practices. People's minds are being transformed from conservative minds to liberal ones with emphasis on an individual's freedom of choice. With this mindset, individuals are at liberty to adopt or not to adopt FP, choice of method is also their right. Human rights activists who are pro-abortion base their rationale on this provision of freedom of choice over one's body.

5.1.6 Myths and misconceptions

A number of myths were formulated by Africans to help in understanding of their world. When such explanations are subjected to scientific principles like experimentation, they would not make meaning. Mysteries such as origin, meaning and ultimate destiny of life were best explained in African societies through myths. Scientific interpretation of reality is in sharp contrast with African myths thus resulting in a conflict between the two. Science for instance cannot incorporate a myth in their attempt to understand a subject but rather use theories which when tested scientifically may end up becoming laws. A similar reality such as the origin of the world will be explained differently creating a dichotomy. On such particular matters such as discoveries in the field of health, science will claim exclusivity in application. This does not offer alternatives to an existing approach.

“some locals are against use of AFP ...they claim they have heard that some of them (FP methods) have deadly side effects, if used, one may never sire children” (FGD 002).

In the recent past, controversies have rocked government health-driven campaigns on the administration of tetanus vaccines, e.g one in which the Catholic Church in Kenya claimed was laced with FP enhancing hormones (RNS 2014). Suspicions ran high

among the faithful. Other misconceptions include the belief that once someone is using FP, chances of being barren are high all of which ought to be countered by scientists through effective communication reaching the target audience. Side-effects associated with FP have been exaggerated and falsified, especially by those of dissenting opinion so as to discourage potential and current users. Sentiments such as, ‘it makes one over-size’ ‘sexually immoral’ are under the category of misconception and requires clarification from FP health experts. Worrying is part of human nature but declining to approve of life enhancing changes is anti-development. The onus is on science to bust myths and effectively communicate the value of modern science and technology.

5.1.7 Poor infrastructure

New knowledge generated by scientists through research has to be disseminated to the public through various means. Well established research-based institutions in the developed world have perfected the dissemination process by having their own journals, books, regular conferences and active websites. A new enterprise, science communication, has been incorporated to smoothen their work.

Africa, and specifically Kenya, has not developed proper means of reaching out to local communities with scientific information. Science communication is less or non-existent in spite of the presence of several research-based institutions. In most cases, scientists have their own reservoirs for keeping knowledge; this knowledge rarely reaches to the public. The recent past has witnessed scientists placed in a hard place of explaining themselves when the mainstream media took over and owned dissemination of scientific information. This observation was made by one of the key informants on the field of science as follows;

“our (scientific) findings rarely get to the public...and if that happens, the public hardly appreciates the work of scientist...they hardly

search and read at all...the media has usurped our role as scientist of informing the public of scientific work” (KI 003).

Scientists suggested that the local population are unappreciative of scientific work. The media is also blamed for being a barrier between scientists and the public. However, the non-expert has relied on the media to give meaning to knowledge in the domain of science such as use of genetically modified foods, tetanus vaccination and FP while scientists largely remained silent. Where expert-public interactions become rare, quacks handle alien topics leading to controversies. The Kenyan situation is characterised by most citizens receiving health information from the media, especially radio, as opposed to science experts.

5.2 Barriers to Communication between Scientists and RCC on Family Planning

The third objective of the study was to investigate the barriers to communication between scientists and RCC in Turkana County with respect to FP. After establishing that there is absence of communication between the scientists and RCC, the researcher set to bring forth the barriers, and discusses them in the next section.

5.2.1 Independence Approach

The researcher established that both scientists and RCC performed their functions independent of each other. The researcher probed key informers on how and whether they engaged each other on FP. The following responses were given;

“as a scientist (Health practitioner) I link with FP clients who come voluntarily for services at the clinic” (KI 002).

This observation suggests that, scientists would directly handle their clients without the interference from others. The observation places the FP client within his/her rights to seek FP services from the clinic and the scientist performs his/her tasks without external influence. As shown in Chapter Three, this clinic model implies the scientists lecturing to the client on contraceptive use at the clinical facility. The clinical model is a deficit

model because there is flow of scientific information on FP from the scientists to the recipient client. The interaction between the scientists and the client seeking FP services locks out the RCC. This setting places the scientists and the client independent of the RCC, and does not encourage or provide a forum for engagement between the two.

Yet another scientist lamented;

“we do not engage RCC because we do research and document our findings without external influence from RCC...they (RCC) can access those findings from various documents” (KI 004).

The above comment made by the scientist suggests that RCC has an option of understanding scientists but through reading their publications. Also, it can be observed that scientists are obsessed with doing research and publishing; they are contended that their publications will reach out to many in the public. This suggests that scientists would want to do their work independently.

Another scientist when asked the same question responded:

“we do our work independently and in some cases our sponsors may want to be part of it.... we have not collaborated with RCC in any research before on FP” (KI 003).

The above responses point to a scenario where the scientists suggest that they do not have to partner with the RCC in their work. It seems that scientists carry out their tasks without collaborating with the RCC, notwithstanding Catholic doctors under their umbrella body, Kenya Catholic Doctors Association (KCDA).

A clergy responded to the same question:

“the KCDA does it research on FP on behalf of the RCC and presents its report to the Church...they do independent research...different from the government” (KI 003).

The foregoing seems to tally with the independence model discussed in Chapter Four.

The model suggests that scientists should do their work independently, documenting

results for whoever may be interested in them. As seen in the fourth chapter, the independence model suggests that religionists should practise their faith without being worried or concerned about implications to science (Sweetman, 2010). However, contrary to this approach by scientists, democratisation of science is key to uptake of its findings by the target group. As discussed in earlier chapters, non-expert public are no longer just consumers of scientific findings but are also stakeholders in the generation of new knowledge. It seems scientists need to climb down from their ivory tower and engage the RCC on FP issues in a dialogue model that caters for their concerns.

5.2.2 Absence of Science Communication

Literature review on science communication in Chapter One pointed at the absence of science communication in the work of scientists in SSA. This motivated the researcher to find out from scientists whether or not they had training on it; how they applied it in their FP work and whether it was worth having. Key informant stated:

“that (science communication) may be something new...but a majority of us shy away from the media because the media changes stories.... what you have may be totally different from what is in the media...a slight change in a scientific story means a big difference” (KI 002).

Another key informant held this view;

“there is not science communication but from my understanding, engaging the public is a good cause...especially on FP ... we have been trained by Tunza Kenya on how to link with the public but did not mention Science Communication” (KI 003).

The above findings suggest that science communication is not yet a developed field; it has not been embraced by scientists in Turkana County in their work. The scientists interviewed mentioned some aspects of science communication but confirmed absence of training on it as a field. Absence of this field becomes a barrier to engagements

between scientists and the RCC on FP, bearing in mind that, in today's world, science communication is an absolute necessity (Gawali & Rawat, 2018). Science communication is increasingly becoming a valued enterprise vital for linking the expert community and the non-expert. The connection between scientists and the non-expert public affects how science is viewed. According to Bryant (2002), science communication is the process by which the culture and knowledge of science are absorbed into the culture of the wider community. In the case of Turkana County, the scientists have a task of engaging the non-expert groups on family planning. In this regard, the process is dual and considers the ethical and cultural needs of the Turkana residents. Like scientists from the western world, scientists in Turkana County ought to incorporate science communication in their FP work so as to gain public trust. In order to operationalize interaction between scientists and RCC, it requires of scientists to possess skills on science communication, a tool through which smooth interaction between them can take place. Gross (1994), favoured the contextual model characterised by two-way flow of knowledge.

5.2.3 Lack of Interest

Scientists attribute lack of interest to absence of communication between scientists and the RCC on FP. The researcher sought from scientists whether the public or the RCC was interested in sharing on FP and responses were:

“the public and RCC do not seem to appreciate the work of science. Consequently, they won't like the findings of research on FP ... out of them” (KI 003).

The researcher further probed the scientists for reasons to constant rejection of their findings by the RCC, and the responses were:

“a lot of what we research on and the findings we get do not conform to the beliefs that have been traditionally held to be true we seek to improve FP by coming up with more effective ways such as AFP but they face rejection from groups such as RCC” (KI 003).

From the foregoing, scientists claim that due to the nature of their work, the findings of their research do not always conform to the existing norms and beliefs. The unwelcoming experience of scientific findings by the non-expert group exerts demotivates them to share their knowledge with the public. This energy is diverted to making publications and sharing it with the like-minded researchers as opposed to public engagement because they perceive there is little public demand of it. Yet the public is the prime and targeted consumer of the scientific findings.

Indeed, when asked whom they would most likely engage with, the responses were:

“the public and some groups are unappreciative of scientific findings, out of which misinformation will result...we had rather engage the policy makers on FP and other health topic directly” (KI 004).

The scientists are comfortable to engage with the policy makers on FP directly. Scientists are not confident that the non-expert public and such groups as the RCC would understand FP comfortably and dealing with it. This lack of appreciation of scientific findings compels scientists to engage policy makers and defend science from misinformation. The view of the public as uninterested and incapable of understanding scientific research (Besley *et al*, 2013) lead scientists to think that society does not have the necessary skills to understand how important public investment in science and technology truly is (Llorente *et al*, 2019). Lack of appreciation of science by the public could as well explain the controversies that have surrounded FP methods. Disinterest in scientific enterprise will attract less approval from the public and less funding.

5.2.4 Fears of distortion of knowledge

From the previous response by scientist that ‘the media changes stories’ the researcher made further interrogation as to why the media would distort information. The responses were:

“the objective of the media is not the objective of science ...media is sensational whose aim is to sell news while science is methodical, systematic, and kind of ‘dry’ information” (KI 002).

From the above observation, scientists avoid mass media because of differences in objectives. Whereas mass media is in business of selling news, scientists are in for production of knowledge. The worry of scientists is that scientific findings may not be sensational and the media may want to twist to make findings sensational. Lugalambi and Nyabuga (2011), science and technology are among the areas that the media often pay little attention to. This is attributed to factors such as the assumption that there is little audience interest, particularly because science and technology are generally perceived to be difficult to understand by both journalists and the audience. The diminished role of media in disseminating science-related topics is an opportunity for scientists to link with the public directly.

The researcher further sought to know whether mass media was useful amongst the scientists themselves and one of them held the view that:

“it (mass media) becomes useful when we are communicating amongst ourselves (scientists) because we as scientists understand the basics as opposed to engaging the non-expert group which requires kind of orientation to scientific principles” (KI 001).

The observation suggests is that scientists find it difficult to engage the non-expert group because of the perception that they lack orientation to scientific principles’. Scientists find it easy to link with each other on FP because of their understanding of scientific information and practices. This finding concurs with that of Collins *et al*, (2016) that most scientists consider media to be useful when communicating with other scientists rather than suitable for science communication to the general public. This position suggests that scientists are leaning more on deficit model which favours one-way communication. In this case, scientists would want to educate the public in Turkana County in a unidirectional manner.

The researcher found out that most scientists avoided mass media. This concurs with the findings of Liang *et al.*, (2014) that only a minority of scientists have been actively engaged in communicating science through popular media outlets. It seems that the fear held by scientists against the mass media is guided by the IPMI Theory discussed earlier in Chapter One. The theory postulates that people's perceptions of the effects of mass media shape their reactions to media. Consequently, their interactions with media varies in relation to those perceptions. The same is applicable in Turkana County since scientists fear that, once information about FP is let out to the media, they may lose control over it or can be misrepresented. The findings of this study concur with those of Liang *et al.*, (2014) that scientists have a kind of phobia that the mass media may change scientific story to something different in the course of reporting.

5.2.5 Fears of downgrading

Some scientists were hesitant on engaging the public through science communication and upon interrogation, they gave responses as:

“but some of those (scientists) who have done so (engaged the public) have been held in low regard by fellow scientists” (KI 003).

The researcher probed the scientists to know why scientist engaging communities would be held in low regard and the response was that:

“a lot of respect for academics comes from publications ...not how well they engage the communities. Our concentration is on researching on such topic as FP and making publications out of them” (KI 003).

Another scientist however held a different view.

“every discipline has its own traditions but I don't see how engaging the public will result in one losing status or respect...perhaps it is just a perception” (KI 002).

The above observation suggests that scientists are after publications because that is how they will be rated high. Engagement with the local communities is discouraged because

it ‘downgrades’ a scientist. This finding concurs with that of Liang *et al.*, (2004) that scientists who engage the media may suffer repercussions from their colleagues. Further, the Royal Society (2006) reported that scientists who engaged the public were less regarded by other colleagues. Furthermore, the report details peer pressure and public engagement as bad for their (scientist) career. According to the report, those who engaged the public in their researches were depicted by their colleagues as ‘not good enough’ for an academic career, a notion which is a setback to science communication. This negative attitude held against public engagement can partly be attributed to the shortcomings associated with the dissemination of scientific-related information by the media to the non-expert public. However, the challenge of risk of mass media misrepresenting scientific facts to the public may be solved when scientists or media practitioners train on science communication so as to handle science-related topics by themselves.

5.2.6 Absence of Forums for Engagements

When the RCC clergy, who were key informants, were asked the question whether scientists communicated to them on FP or whether they communicate with scientists on the Church’s position on FP, the response was that:

“communicating RCC position on FP to scientists is done in the pulpit. Seminars and workshops are organized for the couples, parents and youth differently, whereby the position of RCC on FP is passed. In this case, the groups in attendance have scientists in them, but still no exclusive engagement between RCC and scientists has been done before” (KI 002).

The RCC key informant revealed that there were no deliberate forums for their engagement with scientists on FP. The finding is that RCC would pass FP information to the faithful from the pulpit, in whose attendance scientists are included. However, in such forums, the podium is for the RCC clergy to spread the gospel so that scientists

are not accorded opportunities to interject and participate in discussing FP. Thus, communication approach used by the RCC is also unidirectional.

The absence of forums for engagement between scientists and RCC are not clearly established thus encouraging dichotomy. The workshops or seminars organized are found to be intra, so that the deliberations involve members of a domain. This means input from experts from the other field cannot be captured, thus deepening the dichotomy.

When asked whether they communicated their research on FP to RCC, a scientist (health expert) who was a key informant confessed that:

“not really...we do not have a platform to engage them on FP ...however, once research is done and is complete, a publication out of it is made and availed in various platforms that are available for everyone to read, like the internet” (KI 002).

The above implies that there are no forums that will facilitate sharing of information and challenges on FP and other health topics between scientists and RCC. Discussing FP information will lead to knowing each other's standing point present a platform for understanding the reasons for opposition to a scientific solution to a health problem. Misinformation about a product has attracted negative attitudes, but through open and honest discussions, amicable solution can be reached. It is against this background that scientists and faith groups such as the RCC can form platforms allowing discussions on contested topics. Notably, in Kenya, a group by the name Christian and Scientific Association of Kenya (CSAK) has been formed to facilitate synergetic interactions between Christian faith and science. Christian faithful stand to benefit from the deliberations made by CSAK.

5.2.7 Methods of approaching knowledge

The study highlights methods of approaching knowledge or attaining truth as barrier to communication between scientists and RCC on the topic of FP. Thus, the researcher enquired from RCC clergy reason for not engaging in communication with scientists on FP matters. The response was;

“RCC stands for NFP and that life starts at conception, sexual act is a sacred act because God is involved in the very act. From that act, creation begins there, but science through AFP permits termination of human life” (KI 002).

The response from RCC clergy suggests the point at which life begins and ethics around it to be of contention on FP. At this point, it would be interesting to point out that the RCC supports its claims basing on biblical interpretation. Upon further probing, RCC took an issue with scientists on the ethics involved on FP. Their argument is that NFP does not promote immorality; it does good by promoting sanctity of human life. RCC interpretation of AFP methods championed by scientists is that;

“AFP methods are harmful to the body because of the side effects...promote immorality...like using condoms to have extramarital affairs” (KI 003).

It is worth-noting that scientists are source of scientific knowledge but RCC is a channel, not the source. As it may sound, RCC clergy would read the scientific findings as presented to them and interpret them in light of the Biblical teachings. Biblical teachings are sacred for believers unlike scientists who interrogate everything before being accepted as new knowledge. RCC preaches to its faithful to practice NFP for being safe while shunning harmful ones which according to them, AFP are harmful to one's body. Using the functionalist theory of religion RCC faithful are conscious of the sacred and profane being NFP and AFP respectively and would act in solidarity. RCC faithful are expected to adhere to the teachings of the Church as per the theory.

The researcher further asked one of the RCC key informants whether or not indeed their faithful were living up to the teachings of the RCC as far as FP was concerned. His response was;

“my work as a priest is to present the truth to the faithful... I tell them about safe birth control method which is NFP as taught by the RCC worldwide. It is then upon the member to choose for herself because members have free will and there are human rights” (KI 004).

RCC acknowledges birth control and subscribe to NFP methods only. The above response implied that some RCC faithful apply AFP for birth control. Human rights and free will are tools for which an individual exercise without coercion and there is human reproductive health rights for which birth control methods fall into. The RCC clergy's work ends only at guiding the faithful as per the church tradition and teachings, but matters of choice and exercise lie within the individual. Scientists promote AFP on their effectiveness whereas RCC promotes NFP for non-interference of human life after conception.

The researcher established another barrier to communication between scientists and RCC on FP to be religious barriers. As shown earlier, RCC uses scriptural texts to have a stand over FP particularly the *Humanae Vitae* of 1968, which acknowledged the NFP as the only recommended birth control. Scientists use the approach of experimentation to derive their knowledge. Comments from both scientists were;

“The beliefs held by RCC oppose AFP ...reaching a conclusion with them is difficult because of their beliefs” (KI 002).

The RCC clergy gave his stand as follows;

“life starts at conception...the foetus has life though not yet born...but scientists view the foetus as not a living human until it is born and can be done away with by the carrier” (KI 002).

RCC clergy commented that;

“the scientist’s definition of the foetus is designed to suit and achieve a purpose...allowing abortion on grounds that the foetus is not yet a child” (KI 004)

The understanding of the onset of human life is significantly different for scientists and RCC. Our key informants revealed that the definition of the onset of human life had implication for the justification of abortion. The scientist’s definition will permit abortion because the foetus is not yet born to become a child.

From the above findings, the method of attaining understanding which informs truth is different for the two domains. The beliefs held by RCC are exclusive and do not encourage challenging. This is contrary to the approach used by scientists to attain truth. It is this disparity in approach that reaching a common conclusion becomes a problem for the two domains. Controversies are prone to occur; at the end is the citizenry that suffers. Currently, efforts are being made by scientists and religious groups such as Christians.

5.2.8 Mistrust and suspicions

The RCC clergy were asked whether they would be willing to have an interaction with scientists on FP topic, and they made the following response:

“science and scientists support AFP which involves termination of the outcome of sexual act that may justify abortion...because sex is considered to cause pleasure which is short-lived hence easy to do away with results” (KI 001).

But another one claimed;

“yes...but the truth is prime because residents’ acceptance of AFP is always motivated by money but not the truth...NGOs pump in a lot of money...and out of poverty, Turkana residents would buy into their ideas of using AFP” (KI 002).

The opposition meted on AFP by RCC lies on the suspicion and mistrust that there is a hidden plan of introducing birth control using means that do not promote sacredness of both the sexual act and human life. The key revelation by RCC key informants implies that the government, some NGOs and scientists have secret plans of introducing suspicious birth control measures including AFP. Such reservations held by RCC against scientists and other FP providers call for all service providers to come out clean and lay out their plans to the public for transparency. The RCC clergy revealed that they were driven by truth but heaped blame on NGOs as driven by donor money hence enticing people to accept their FP products without much vetting. However, scientists defend science and its products. According to Gawali & Rawat (2018), the developments brought forth by science and technology and appreciation accorded is not an absolute necessity according to the laity. They further claim that this blame could be because science is out of bounds for the laity. RCC claims NGOs take advantage of poverty situation in Turkana County to introduce plans that do not promote sanctity of human life.

The researcher also tasked the scientists on the existence of mistrust and suspicions and how they deal with it in their work. One of them offered below response:

“there exist rumours and suspicions surrounding use of FP , especially AFP that we promote...but they are spread by non-scientific groups who do not have scientific facts” (KI 004).

Yet another scientist responded:

“mistrusts and misinformation occur when groups or people, other than scientists handle scientific information... as scientists, we deliver FP information backed up by research and sometimes the information does not resonate well with the public” (KI 003).

The above observation implies that scientists acknowledge the existence of rumours and suspicions targeted on FP. They blamed this on non-scientific groups. From the foregoing, scientists seem to put less emphasis on communication that will make the

public embrace scientific findings. This finding concurs with those of Dudo & Besley (2016) that scientists least prioritize communication that seeks to build trust and make the information imparted resonate with the public. This calls for a strategic approach to communication such as incorporating science communication by scientists and using it to highlight common grounds between the scientists and the non-expert groups on topics such as FP.

Participants in the study who were interviewed by the researcher embraced the idea of formation and adoption of forums that promote dialogue between scientists and the RCC on controversial topics such as FP. The RCC's key informants called for regular workshops and seminars where external facilitators are called to share their ideas and knowledge about FP. These discussions are supposed to be held openly and regularly. Scientists who were interviewed also confirmed the need for common forums for engagement. The study found out that forums for dialogue should be adopted in promoting synergetic interaction between science and religion concurs with those of Besley that science communicators see the value of engagement-related dialogue, as simply being better ways to achieve the objective of filling knowledge deficits (Besley *et al.*, 2016).

The dialogue model as explained by Trench (2008) and Buchi (2009) suggests models of expert-public interaction. The model is helpful in understanding that scientists and RCC need to engage in meaningful dialogue over controversial topics such as FP. The model holds that the public is no longer just a consumer of scientific findings but active participants and this is in line with democratisation of science. From the model, suspicions held by the RCC faithful against scientific findings on FP can be countered through provision of accurate and timely information by scientists. It is against the

foregoing that dialogue needs to be embraced and scientists need to incorporate science communication in their work.

5.3 Christian and Scientific Association of Kenya (CSAK)

Recent efforts between scientists and Christians have been fostered culminating in the formation of a body called CSAK with a secretariat headquartered in Mt Kenya University. This is a body which brings together scholars in the fields of science, culture and Christian faith to facilitate synergetic interaction between the two. It is a step forward towards promoting understanding between science and Christian faith on topics such as surrogacy, organ transplant, blood transfusion, invitro-fertilization, climate change, global warming, desertification, pollution, and artificial intelligence. Being a body of scholars from various universities and research institutions from Kenya, CSAK carries out researches such as the one which provided anchorage to this study; *Bridging the Gap between Science and Cultural Religious Practices through Science Communication*, a multidisciplinary study carried out in the counties of Nakuru, Kilifi and Turkana.

5.4 Summary

This chapter set out to investigate barriers to communication between scientists and RCC in Turkana with respect to family planning. It was found out that scientists and RCC do not have forums for engagement on FP issues safe for RCC but it happens at the periphery of other engagements such as during preaching by the clergy. It was established, that scientists have no formal training on science communication, which is ideal for equipping scientists so as to engage the non-expert public without a midfielder player like mass media. Approaches used to arrive at truths for both domains varied; scientists used experimentation while the RCC relied on scriptures. It is possible to create synergy between scientists and RCC on FP if the two would agree to engage in

dialogue. The next chapter presents summary, conclusions and recommendations of the study.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter summarizes the core findings, makes concluding remarks and recommendations of the study. The core concern of the study was to investigate the barriers to communication on FP between scientists and RCC in Turkana County with the aim of promoting synergetic interaction between science and religion. This broad objective was guided by the following specific objectives:

- a) To explore how scientists and the RCC communicate on science issues in Turkana County.
- b) To establish areas of controversy between scientists and RCC with respect to FP in Turkana County.
- c) To investigate barriers to communication between scientists and RCC in Turkana County with respect to FP.

6.1 Summary of Key Findings

The first objective of the study was to explore how scientists and the RCC in Kenya communicate on issues science in Turkana County. The findings of this study show that, the RCC uses oral, written and electronic modes to convey her message to the public. The scientists on the other hand use majorly uses seminars, the internet and workshops. This does not however imply the RCC do not utilize them also.

In relation to training on science communication as a field, it was established through in-depth interviews that scientists have no formal training on the field. However, some aspects of science communication may be mentioned during training. It was revealed

that science communication is not yet a developed field in Africa. In view of this, handling the public with scientific information is poor and prone to controversies.

Further, the study sought to establish areas of controversy between scientists and the RCC with respect to FP in Kenya as objective two. Basing on the findings, the content of a method is what led to controversies. As a result, the RCC would oppose anything that contravenes her teachings or beliefs. She oppose AFP methods basing on the sacredness of sex and ethics around them. This knowledge is anchored on the doctrines of the Bible on the onset of human life and the purpose of sex.

Further, the study indicated that there are no forums for direct engagement between scientists and the RCC on health topics such as FP. An enabling tool for interaction between scientists and RCC is for example science communication which has been found to be non-developed. This only serves to promote the independence model of relating science and religion which holds the two enterprises as totally independent and autonomous. This is because, each has its own distinctive domain and its characteristic methods that can be justified on its own terms. However, this model serves to strengthen dichotomy which results in conflicts.

The RCC holds certain suspicions and mistrust against the scientists, the government and NGOs as having secret plans of introducing such practices as birth control without the consent of targeted women. The claim that NGOs are used by donors to achieve certain targets may harm individuals targeted by their programs. Individuals easily fall prey because of seeing the monetary value. Scientists do not rely on the Church in their search for knowledge.

The media has also been found to be a useful tool if scientists engage them directly to check on what and how they report to avoid misreporting. However, some scientists

hold negative attitude towards media and public engagement yet there is an increasing recognition that scientists need to get out of their ivory tower and engage the non-expert communities.

6.2 Conclusion

Science communication as a field is not yet developed in SSA. Therefore, handling the public with scientific information is poorly done and prone to controversies. It is concluded that the means of deriving knowledge between scientists and RCC is different hence resulting in controversies.

Cultural barriers, illiteracy, religious barriers and myths and misconceptions are barriers to communication between scientists and RCC. Further, the study established that, scientists and the RCC have no forums for building understanding on science related topics. It was revealed that there also existed heightened suspicions and mistrust from the RCC against scientist and NGOs activities that have become barriers to interaction between them. It was unveiled that the media wields much influence in communication field and can misrepresent scientific facts to the public.

The study was guided by among them the Functionalist Theory of Religion. The RCC faithful were aware of NFP as advocated by their clergy but did not always adhere to it. This compels the researcher to conclude that knowledge does not always inform practise. Application of IPMI Theory revealed that the media becomes an opportunist when it senses there is a division over certain matters. It is thus concluded that scientists need to engage the non-expert public by themselves. The dialogue model that also guided the study was found to be useful in bridging the gap between science and religion and as such, scientists and RCC ought to have common forums for articulating FP topic.

6.3 Recommendations of the Study

The recommendations presented here are in light of the findings and conclusions drawn from the study and are meant to illuminate approaches to overcoming the barriers to communications on FP between scientists and the RCC. These recommendations will be useful to government health policy researchers especially towards the realization of reproductive health rights which is anchored in UHC agenda in the country.

1. The study findings suggested that scientists have limited avenues of passing scientific information, mostly seminars and workshops, which have less audience. There is need for the scientists to improve on the means they use to deliver new scientific knowledge so as to widen their audience coverage. The study recommends adoption of science communication to be undertaken by all scientists in learning and training institutions. This will equip scientist with skill of communicating their findings to the public without over-reliance on media, and those who are already doing research to undergo in-service training. This will eventually lead to enhanced cooperation between scientific researchers and the non-expert communities. Also, science communication would address suspicions and mistrusts associated with them by RCC.
2. The sources of knowledge between RCC and scientists vary. This study recommends dialogue between the two to harmonize their knowledge. Religious and cultural beliefs of a group should not be a barrier to new knowledge but ought to be subjected to dialogue with the scientists. The controversies that have rocked science and religion can as well be resolved through sharing of information.

6.4 Suggestions for Further Study

In the course of conducting this study, other areas came up that warrant further research.

These include;

1. The study findings indicate that RCC holds suspicions against NGO's activities and their donors. It is thus the recommendation of this study that research be done to ascertain their activities and their impact, if any, on the society.

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APPENDICES

Appendix I: Introductory Letter

Langat Collins,
Moi University,
Department of Philosophy and Religion.
P.O. Box 3900
ELDORET.

20th August, 2019


Dear Sir/Madam,

I, Langat Collins, a student in the Department of Philosophy, Religion and Theology, wish to carry out a study on *Barriers to Communication on Family Planning Between Scientists and The Roman Catholic Church in Turkana County, Kenya* with the aim of enhancing dialogue between science and religion.

I hereby request you to contribute to the success of this study by cooperating and responding to the questions with honesty. All responses will be handled with utmost confidentiality and purely for the purpose of this study.

Thank you.

Yours faithfully,


Langat Collins

Appendix II: Interview Schedule for key Informants - Scientists (Health Experts)

Name of key informant (Optional)

Place of interview.....

Informant's profession.....

Informants' sex.....

1. Please tell me about your day to day professional work.
2. Scientists are increasingly being urged to engage the non-expert public, what do you think about this?
3. How equipped are you in terms of training in science communication, to engage the non-expert communities?
4. You are a scientist; do you communicate your research on Family Planning with the Roman Catholic Church?
5. Describe how you communicate with them on Family Planning?
6. Can you describe your approach as being sufficient enough? Why?
7. Looking at FP, what is controversial about it between you and the RCC?
8. How do you approach controversies surrounding new technologies especially AFP with the RCC?
9. What do you think is the most important reason why scientists (health experts) should engage the RCC on FP and how should they do that?
10. What do you think is the main setback facing scientists (health experts) in engagement with RCC on FP?
11. How do you address concerns of RCC on FP especially AFP?
12. How do you think communication on FP between scientists and RCC may be promoted?

Appendix III: Interview Schedule for Key Informants - (RCC Clergy)

Name of key informant..... (Optional)

Date of interview.....

Place of interview.....

Position in Church.....

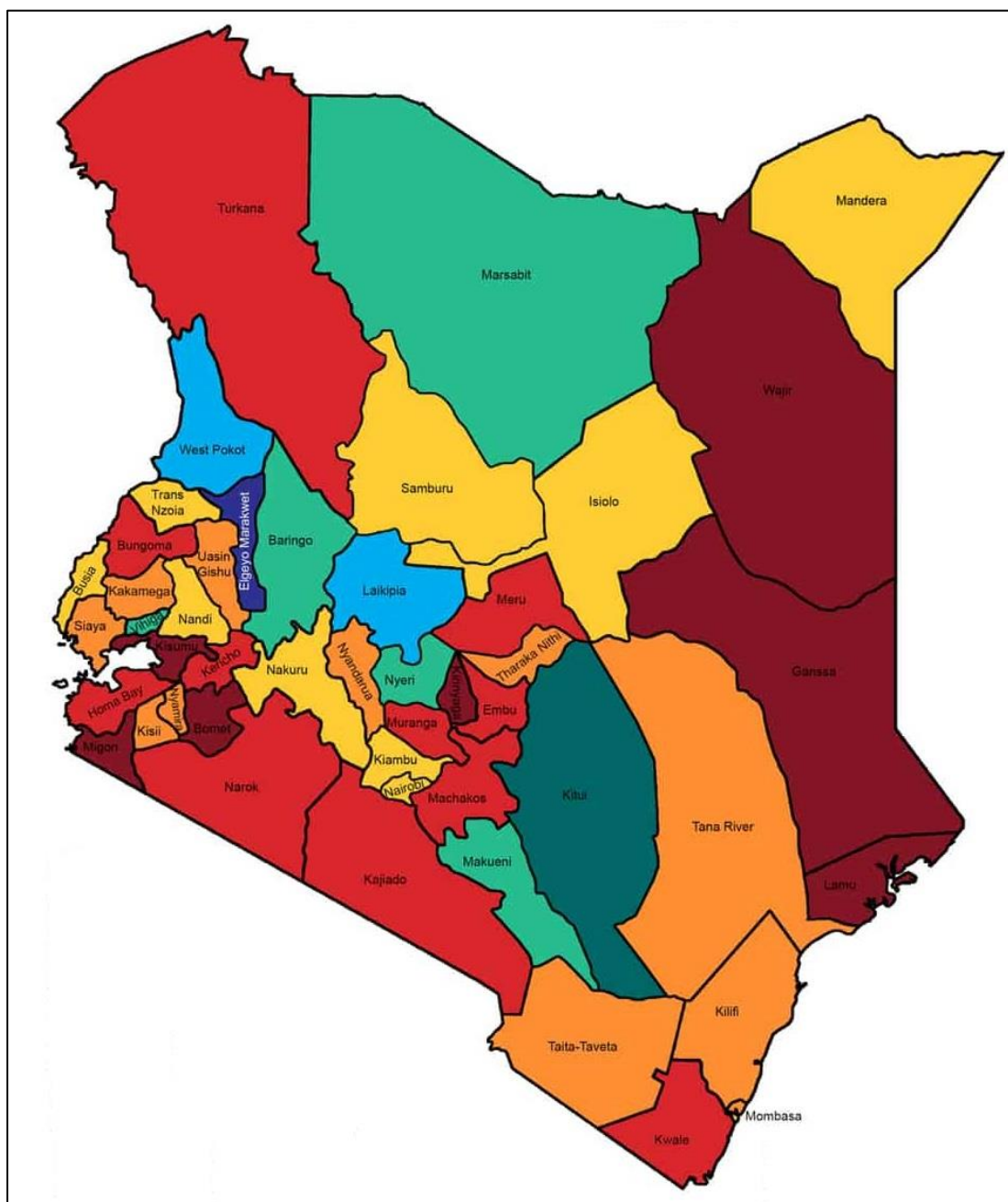
Informant's sex.....

1. What is your Church's position on FP?
2. Do you communicate your Church's beliefs and teachings on FP to scientists in your local Church?
3. How do you communicate them to scientists?
4. What makes you successful or unsuccessful in communicating with scientists?
5. What are you doing to improve on avenues of communication with the scientists especially on FP?
6. What controversy exists about FP between the RCC teachings and opinion of scientists?
7. How often do you have dialogue forums on controversial issues of FP with scientist?
8. What do you think should be done to improve dialogue between you and scientists on FP?

Appendix IV: Interview Guide for Focused Group Discussions (RCC faithful)**Name of key interviewer.....****Date of interview.....****Place of interview.....**

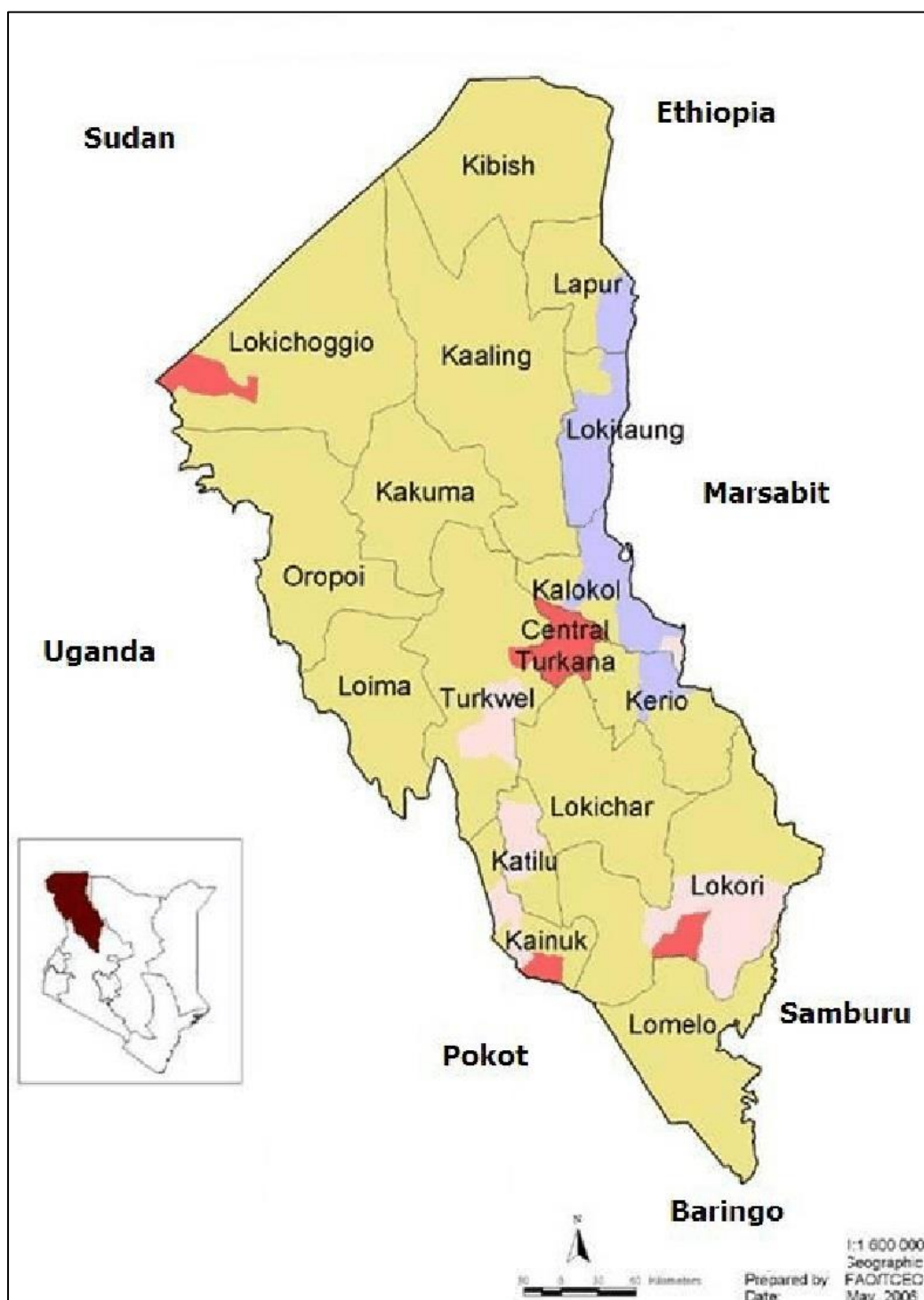
1. What is the Catholic teaching on family planning?
2. Where do you get this information from?
3. Do scientists communicate with you about family planning? If yes, how do they do this?
4. If no, do you think they should be communicating?
5. How do you communicate the Catholic position on FP to scientists?
6. If no, do you think you should be communicating?
7. Are there any challenges of communication between scientists and Catholic Christian?
8. Are there contradictions between what the Catholic Church teaches and what scientists tell you?
9. How do you resolve these contradictions?

Appendix V: Map of Kenya



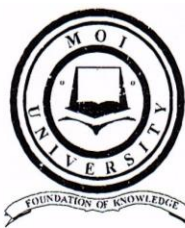
Source: IBP (2019)

Appendix VI: Map of Turkana County



Source: FAO, 2006

Appendix VII: Research Authorisation



MOI UNIVERSITY
(ISO 9001:2015 CERTIFIED INSTITUTION)

SCHOOL OF ARTS & SOCIAL SCIENCES

Tel: (053) 43093
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P.O Box 3900
ELDORET
KENYA

18th November, 2019

NACOSTI (National Commission for Science, Technology and Innovation),
P.O. Box 30623,
Utalii Hse,
NAIROBI.

Dear Sir/Madam,

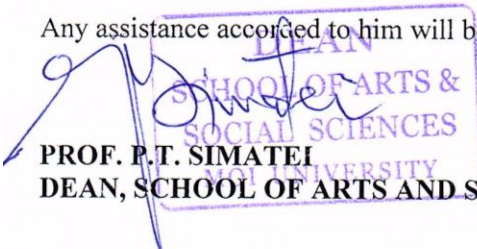
RE: LANGAT COLLINS KIPTOO – SASS/PGR/03/19

This is to certify that the above named is a bonafide student at Moi University, School of Arts and Social Sciences. He is a Master of Arts (MA) student in Religious Studies.

He has completed his coursework component and proposal and has now embarked on Thesis writing.

His Thesis is entitled: **“Barriers to Communication on Family Planning between Scientists and the Roman Catholic Church in Turkana County, Kenya”.**

Any assistance accorded to him will be appreciated.


PROF. P.T. SIMATEI
DEAN, SCHOOL OF ARTS AND SOCIAL SCIENCES

Appendix VIII: Research Permit (NACOSTI)

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 188704	Date of Issue: 23/October/2020
RESEARCH LICENSE	
	
<p>This is to Certify that Mr.. collins kiptoo langat of Moi University, has been licensed to conduct research in Turkana on the topic: BARRIERS TO COMMUNICATION ON FAMILY PLANNING BETWEEN SCIENTISTS AND THE ROMAN CATHOLIC CHURCH IN TURKANA COUNTY, KENYA for the period ending : 23/October/2021.</p>	
License No: NACOSTI/P/20/7280	
188704	
Applicant Identification Number	Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code
	
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