MAKERERE UNIVERSITY

RADIO FOR COFFEE GROWING AND PRODUCTION: A CASE STUDY OF "AKAZINDARO K'OMUHINGI N'OMURIISA' PROGRAMME ON RADIO WEST

BY

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Declaration

This dissertation is my original work except where due acknowledgment has been made in the study. I declare that the dissertation has never been submitted anywhere for any award.

Signature ..... Date 10.01.2023

Taremwa Oliver

Approval

This dissertation has been written under my supervision and has been submitted for the award of the Master of Arts in Journalism and Communication with my approval.

Signature ..... Date 10.07.2023

Dr. Fred Kakooza

Supervisor

Dedication

To my parents, thank you for the guidance and support throughout the academic journey

Also dedicated to my children, Mwikirize Alvin, Nagasha Abigail, Atuhaire Divine Noel, and Kutamba Malaika Testimony.

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List of Acronyms

FAO	Food and Agricultural Organisation
GDP	Gross Domestic Product
ICO	International Coffee Organization
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
NGOs	Non-Governmental Organisations
NITA-U	National Information Technology Authority Uganda
NPA	National Planning Authority
UCC	Uganda Communications Commission
UCDA	Uganda Coffee Development Authority
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNDP	United Nations Development Programme
BBC	British Broadcasting Corporation
ICT	Information and Communication Technology

Abstract

There are several coffee growing and production constraints faced by smallholder farmers in South Western Uganda. Despite the potential for agricultural technologies/practices to increase coffee production, adoption by farmers has remained low due to limited access to agricultural information. Radio is increasingly becoming crucial for the dissemination of agricultural information. This current study sought to examine how radio has contributed to coffee growing and production in Uganda using a case study of the "*Akazindaro k'omuhingi n`omuriisa*" programme aired on Radio West. Radio West is one of Vision Group's five FM radio stations broadcasting in Runyankitara and targeting South Western Uganda. Building on the uses, gratification, and dependency theories, the study employed qualitative content analysis, in-depth interviews with 12 key informants, and 4 focus group discussions. A total of 62 programme segments that aired during three months from January to March 2020 were selected, to assess the type of coffee growing and production content on the programme, the relevance of the programme content to coffee farmers, and the challenges encountered in using radio to promote coffee growing.

The findings of the study indicate that radio has contributed to the dissemination of coffee growing and production. It also emerged that the content aired on the radio is very useful in coffee growing and production. It was observed that most farmers have adapted to the different styles of coffee growing and production, owing to the knowledge they acquire from the radios. The researcher recommends that the line ministries which are; the Ministry of Agriculture, Animal Industry & Fisheries, Ministry of ICT & National Guidance together with the Uganda Coffee Development Authority should come up with a media plan for training, briefings among others to equip journalists with enough information so that they can broadcast well packaged and timely agriculture programmes.

CHAPTER ONE

1.0 Introduction

Coffee is one of the most traded commodities in the world today (Muriithi, Macharia & Gichuru, 2018, p. 1) with the world coffee market, valued at over US Dollars 102.15 Billion in the year 2019, and expected to reach revenue worth US Dollars 155.64 Billion by the year 2026. Coffee remains a major cash crop and top foreign exchange earner for the Ugandan economy and has been ranked as the 5th contributor to Gross Domestic Product (GDP) after horticulture, tourism, tea, and diaspora remittance (National Planning Authority, 2018, p. 11). Global coffee production is estimated to have reached 158.6 million 60-kilogram bags as of 2017/2018.

Uganda is one of the world's major coffee growers. According to the International Coffee Organisation (2018, p. 17), Uganda was ranked in the fourth position after Burundi, Ethiopia, and Honduras in the share of total coffee export earnings with an average of 18% for the period between 2016 and 2017. The industry supports about 800,000 households comprising 535 coffee cooperative societies and 4,000 coffee estates (National Planning Authority, 2013, p. 20). Due to its effective forward and backward linkages the industry supports more than 5 million people in Uganda contributing to food security, employment, and household welfare in the coffee growing areas thus providing a boost to Uganda's overall economy through multiple effects (National Planning Authority, 2013, p. 19).

However, since the liberalisation of the agriculture sector in Uganda in the early 1990s, coffee growing and production suffered a blow with the collapse of cooperatives, which served as extension providers and marketing channels, impacting coffee quality and depreciating prices (Kitakaya, 2011, p. 9). The use of improved agricultural technologies and/or practices has been reported as the major strategy to increase coffee growing and production (Nabaasa, Kalibwani, Ssemakula & Mujuni, 2022, p. 5). There are several coffee production constraints faced by farmers along the coffee value chain. Among these are limited access to credit, limited access to agro-inputs – such as coffee seedlings, fertilisers, and other chemicals– poor agronomic practices, limited landholding, poor postharvest handling, and limited access to markets (Freeman & Qin, 2020, p. 1; Kitakaya, 2011, p. 9).

Despite the potential of agricultural technologies to increase coffee production and productivity, adoption by smallholder coffee farmers has remained low (Freeman & Qin, 2020, p. 1). The low adoption of technologies and/or agronomic practices is due to limited access to agricultural information. (Hakiza et al., 2009, p. 28). This study analysed the contribution of radio towards coffee growing and production, using a case study of "*Akazindaro k'omuhingi n`omuriisa*" – loosely translated as the microphone of a farmer and animal keeper – program on Radio West. Chapter one outlines the background, and context of the study. It also presents the research problem, objectives, and questions, as well as the significance, scope, and theoretical framework. Chapter two reviews the literature on Uganda's broadcasting history and current landscape as well as the context of Radio West and its potential for dissemination of agricultural information. The chapter concludes by reviewing studies on the relevance of agricultural programmes to coffee farmers and the challenges radio faces in promoting agricultural programmes.

Chapter three presents the research design, research approach, data collection methods, data quality control, data analysis, ethical considerations, gender consideration, and limitations. Chapter four outlines the research questions answered in meeting the objectives set in chapter one and alluded to in other chapters. Chapter five comprises a discussion of the study findings in light of the literature review in chapter two and the broader uses, gratification, and dependency theoretical framework alluded to in chapter one. Chapter six outlined the summary of findings, conclusions, recommendations, and areas of further research.

1.1 Background

According to Defleur and Dennis (2012, p. 17), the major functions of radio are; to inform, educate and entertain the masses. Radio compared to other channels of communication, is increasingly becoming crucial for the dissemination of agricultural information (Hailu, Pittchar, Khan & Ochatum, 2018, p. 119). Also, radio is ideal for the majority of smallholder farmers in African countries to receive agricultural information in developing African countries (Okello, 2014, p. 2; Chibita, 2010, p.1), because it is relatively affordable, requires no literacy to listen to, and transcends the most formidable language barriers (Chibita, 2010, p.1). It can reach all farmers irrespective of their literacy level and can be listened to alone or with a group, facilitating agricultural information dissemination (Hailu, Girm, Khan , Pittchar & Ochatum., 2017, p. 30). Radio offers practical and cost-effective opportunities for extension providers to

enhance the delivery of agricultural information (Gorman et al., 2018, p.1). Due to its wide geographical coverage, radio has become increasingly become important to promote improved agricultural technologies and/or practices (Hailu et al., 2018, p. 119). Gorman, Keogh and Clarke (2018, p. 1) study assessed the potential for expanded use of radio in agricultural extension services and concluded that the impact of radio can be maximized when it is integrated into wider agricultural extension programmes.

There is evidence of increasing studies analysing the role of mass media in general and radio in particular in the dissemination of agricultural information. Abubakar et al. (2009, p. 42) examine the role of mass media in disseminating agricultural information to farmers in Sudan. Akioya and Ikoyo-Eweto (2018, p. 9) analyse mass media use and preference in information sourcing among farming households in Edo state, Nigeria. Okwu, Kuku, and Aba (2007, p. 14) investigated the use of radio as a medium of agricultural information delivery to farmers in Benu state, Nigeria. The available studies have focused on the use and preference of mass media in the dissemination of agricultural information.

Despite the potential of radio in the dissemination of agricultural information, scholars should investigate how radio has contributed to coffee growing in South Western Uganda. The available studies conducted elsewhere in West Africa have analysed agricultural radio programmes in technology and/or practice transfer to smallholder farmers. Adamides and Stylianou (2018, p. 1) evaluated a radio programme as a source of agricultural information. Agwu, Ekwueme, & Anyanwu (2008, p. 1277) examine the adoption of improved agricultural technologies disseminated via radio programme in Enugu state, Nigeria. Njoku (2016, p. 22) study examines the effectiveness of agricultural radio programmes in technology transfer to rural farmers in Imo State, Nigeria. Olajide and Amusat (2012, p. 46) assess the efficacy of agricultural radio programme on commodities trends among farmers in Nigeria. Adeyeye et al. (2021, p. 1) investigate the influence of agricultural programmes in indigenous languages on farmers' productivity in Northern Central Nigeria.

Other studies conducted in East African have analysed the influence of radio programmes on the adoption of agricultural technology and/or practices. Mwangi (2014, p. 5) assessed the influence of the radio programme Mugambo Wa Murimi on the farming practice of farmers in Gatanga

Constituency. Okello (2014, p. 2) examines how radio can be used to encourage youth participation in agriculture in Nayanza region, Kenya. Ronoh (2013, p. 1) analysed agricultural programmes aired on Kass FM radio, a vernacular radio station broadcast in the Kalenjin language in Kenya. Hailu et al. (2017, p. 29) evaluate the potential of 19 radio stations to promote new or improved agricultural technologies to strengthen agricultural extension services. Hailu et al. (2018, p. 119) determine radio station preference, choice of broadcasting languages, favourite radio shows, and radio listenership behaviour including time and place of listenership by smallholder farmers in eastern Uganda. Building on previous studies, this study analysed the contribution of radio towards coffee growing and production in Uganda.

1.2 Statement of the Problem

Agricultural information dissemination is an important aspect in the quest to improve coffee production and productivity in Africa and specifically in Uganda. Many studies have over the years identified radio as the best media for this purpose. Therefore, local language radio is ideally, best placed to provide agricultural information to coffee farmers because the majority of them live in rural areas. However, the commercial leanings of most emerging local language radio stations could hamper the contribution of radio to the promotion of coffee growing in Uganda (Ronoh, 2013, p. 1).

Despite the potential of radio in the dissemination of agricultural information, there is yet a lot to be known how radio has contributed to coffee growing in Uganda. The available studies conducted elsewhere in West Africa have analysed radio programmes in agricultural technology and/or practice transfer to smallholder farmers (Adeyeye et al., 2021, p. 1; Adamides and Stylianou, 2018, p. 1; Njoku, 2016, p. 22; Agwu et al., 2008, p. 1277). Other studies conducted in East African have analysed the influence of radio programmes in the adoption of agricultural technology and/or practices (Hailu et al., 2018, p. 119; Hailu et al., 2017, p. 29; Mwangi, 2014, p. 5). Yet few studies have analysed the content of agricultural programmes to ascertain its relevance to farmers for coffee. Although past studies have looked at the relevance of agricultural radio programmes to farmers, they have not analysed the content of agricultural radio programmes. This study analysed the contribution of radio towards coffee growing and production in Uganda using a case study of "*Akazindaro k'omuhingi n`omuriisa*" programme aired on Radio West.

1.3 General Objective

This study sought to examine how radio has contributed to coffee growing and production in Uganda using a case study of "*Akazindaro k'omuhingi n`omuriisa*" programme on Radio West.

1.4 Specific Objectives

1 To analyse the composition of coffee growing and production content aired in "*Akazindaro k'omuhingi n`omuriisa*" programme on Radio West.

2 To assess the relevance of the "*Akazindaro k'omuhingi n`omuriisa*" programme content to coffee farmers in South Western Uganda.

3 To examine the challenges radio faces while promoting coffee growing and production.

1.5 Research questions

1. What is the composition of coffee growing and production content aired in "*Akazindaro k'omuhingi n`omuriisa*" programme on Radio West?

2. How relevant is the "*Akazindaro k'omuhingi n`omuriisa*" programme content to coffee farmers in South Western Uganda?

3. What are the challenges radio faces while promoting coffee growing and production?

1.6 Significance of the study

This study contributes to knowledge on radio and coffee growing in Uganda by assessing content aired on Radio West's agricultural programme and its relevance to coffee farmers, as well as the challenges the station faces in promoting coffee production. It is hoped that the findings of the study enable scholars, practitioners, and policymakers to use radio to share relevant content for coffee growing and production. It is also hoped that overcoming the challenges the radio station faces will positively impact coffee growing and production in South Western Uganda.

1.7 Justification of the study

The reason for undertaking this study was to generate empirical evidence on the nexus between radio and coffee growing and production in Uganda. It is hoped that the study will add knowledge on agricultural programme case studies for commercial broadcasting, especially within the Vision Group context. It is also hoped that overcoming commercial radio programming challenges will positively improve coffee production and development outcomes for the country.

1.8 Theoretical framework

This study is anchored within uses, gratification, and dependency theories as the framework for analysing how radio has contributed to coffee growing. Littlejohn and Foss (2009, p. 979) contend that uses, gratification, and dependency theories arise from a line of work that focuses on the interdependent relationship among the media system, the larger social system, and media audiences. Together, these theories predict that audiences rely on media to gratify specific needs and in the process develop certain dependencies on the media. The more an individual depends on a specific medium to fulfill needs, the more important that medium will become to that person. This can, in turn, lead to different patterns of media exposure and use. Ultimately, this can lead to cognitive, affective, and behavioral effects of media use.

The uses and gratification theory enabled the researcher to understand how and why farmers in South Western Uganda actively seek out Radio West and use its agricultural programme to realise gratifications, such as information needs on coffee growing. Herzog (1944) in Baran and Davis (2012, p. 245) is often credited as the originator of the uses and gratification approach. The simple idea – that farmers put specific media and specific media content to specific users in the hopes of having some specific need or set of needs gratified – forms the basis of the uses and gratification theory (Baran & Davis, 2012, p. 242). Other scholars have explained this central assumption when they suggest that farmers are motivated to actively, freely, and knowingly make their radio and programme choices to meet their self-identified information needs (Perks, Turner, & Tollison, 2019, p. 3; Liu, 2015, p. 77; Baran & Davis, 2012, p. 242).

Herzog (1944) in Dolan et al. (2015, p. 2) used the term gratification to describe specific types or dimensions of satisfaction reported by audience members of daytime radio programmes. In terms of uses and gratification studies specific to radio. Mendelsohn (1964) in Albarran et al. (2007, p. 94) identified several motives of radio listening: companionship, filling a void created by daily routines, altering mood, relieving boredom, providing news and information, allowing active participation in events, and overcoming social isolation. Over time, radio has been investigated from several perspectives, with similar findings. Listeners want entertainment and information and their gratifications range from relaxation and passing time to seeking specific content and awareness (Albarran et al., 2007, p. 94).

The uses and gratification theory also enabled the researcher to understand the challenges radio faces in promoting coffee growing (Dolan et al., 2015, p. 2). Other variables enter into the farmer's consumption behavior of radio and agricultural programme. In its most complex form, the perspective predicts that radio and agricultural programme consumption gratifications are influenced by culture, social institutions, media opportunities, circumstances, personal traits, and needs. Farmer loyalty or continued use is critical for the survival of any radio and the relevance of agricultural programme is important to gratify farmers' information needs.

Baran and Davis (2012, p. 255) contend that the tendency to ignore the possibility of effects has led many researchers to dismiss uses and gratification research as interesting but ultimately of little value. For this reason, some contemporary proponents of the approach have taken on the challenge of linking gratifications and effects. Littlejohn and Foss (2009, p. 979) contend that the uses and gratifications theory by itself grants limited effects to the media, suggesting instead that individuals have much control over what they consume. However, in the process of using media consumers may develop certain dependencies that allow media greater power than the uses and gratifications theory originally imagined. Such dependencies lead to cognitive, effective, and behavioral outcomes.

The media dependency theory extends the limited effects of uses and gratification theory to explain the dependencies farmers may develop for radio and agricultural programme, allowing radio greater power to change farmers' knowledge, attitudes, and behaviors about coffee growing and production. Ball-Rokeach and DeFleur (1970) in Littlejohn and Foss (2009, p. 979) showed that farmers, radio, and the larger agricultural system work together. Several things can increase or decrease dependencies on radio including the farmer's needs and motives, social conditions outside of the farmer's control, and life attributes. For example, farmers who have a high need to be oriented to coffee growing tend to listen to the radio and expose themselves to the agricultural programme. Therefore, there will be greater dependencies on radio and agricultural programme for those farmers than for those with a low need for orientation to coffee growing and production. This can create greater dependencies, especially for those farmers who see radio as their only source of agricultural information. Finally, the circumstance in a farmer's life such as agriculture, education, life satisfaction, income, and loneliness can lead to different patterns of media use and differences in dependencies.

The farmers' reliance on the radio can be viewed from either a micro- or macro-level approach. A micro-level approach looks at how farmers use and depend on radio to meet specific goals and needs. From the micro perspective, a farmer will become more dependent on the radio which will satisfy a variety of needs over media that satisfy just a few needs. These increase dependencies and lead to an increased influence of radio in their lives. A macro-level approach to dependency involves the interdependency between audiences, the media system, and the larger social system. From the macro-perspective, the media system, social institutions, and audiences exist in a state of mutual interdependence. Each has goals they must accomplish and resources to offer the other (Littlejohn & Foss, 2009, p. 979; Ball-Rokeach, 2010). Ball-Rokeach (2010) explains that the media production system operates in an environment where it has a dependency relationship with other social systems, and these relationships not only affect the media's behavior but also contour the relationships individuals can develop with the media. For instance, radio production systems in southwestern Uganda emerge in the context of a relationship with agricultural systems, such that the goals that farmers can attain via radio system dependency relations are largely limited to agricultural issues. The scope of radio production can be

expanded via dependency relationships formed with educational systems, such that farmers can pursue agriculture and education goals through media systems dependency relations. Therefore, effects are by-products of dependency relations more than they are by-products of clever persuasion or the characteristics of audience members. These dependencies arise when farmers, agricultural organizations, or extension systems consider information resources to be essential or preferable to alternative modes of achieving their goals. Of course, extension systems, institutions, and organizations control resources that the media system and its constituent organization must access to attain their goals.

This highlights the power and the effects radio can have on farmers' lives. However, these effects occur not because radio is all-powerful, but because radio operates in a give-and-take relationship with the larger agricultural system and the farmers. The media are only powerful because we use them to gratify a variety of needs. It is the uses people make of media that determine the strength of the media's influence (Littlejohn & Foss, 2009, pp. 978-9).

The uses, gratification, and dependency theories make a good framework for a study that attempts to understand the composition of agricultural programme content and its relevance to coffee farmers as well as the challenges radio faces in promoting coffee growing. In other words, farmers rely on radio and programme to gratify specific agricultural information needs and in the process develop certain dependencies on radio and programme. The more farmers depend on radio and programme to fulfill agricultural information needs, the more important that radio and programme will become to those farmers. In turn, this can lead to different patterns of radio and agricultural programme exposure and use. Ultimately, this can lead to changes in knowledge, attitudes, and behavior about coffee growing and production.

1.9 Scope of the study

This study was limited in terms of geographical, content, and time scope. In terms of geographical scope, the study was limited to Bushenyi and Sheema districts in South Western Uganda. This area was selected mainly for two reasons: radio coverage and regional offices. According to the GeoPoll 2018 quarter one audience rating report, Radio West covers Bushenyi and Sheema districts and the listenership was high at 75 percent (Elliott, 2018, para. 4). Another reason is that Uganda Coffee Development Authority (UCDA) regional offices are located there.

In terms of content scope, the study assessed the "*Akazindaro k'omuhingi n`omuriisa*" programme content aired on Radio West. It was beyond the scope of this study to assess crop and animal-specific information disseminated on the agricultural radio programme. In terms of time scope, this study considered three months of programme content from January to March 2020. The period was selected to include an analysis of programme segments aired before the first season of coffee growing. Hence, studying this period was necessary to understand the relevance of programme content to farmers. The literature is reviewed in Chapter Two.

CHAPTER TWO

2.0 Literature Review

This chapter reviews the literature on Uganda's broadcast history and current media landscape. It outlines the context of Vision Group and Radio West, as well as private commercial radios, agricultural development and programming. The chapter concludes with a review of the literature on the relevance of agricultural programmes to farmers and the challenges radio faces in promoting agricultural programmes.

2.1 Uganda's broadcast media history

Uganda was under British colonial rule between 1894 and 1962 when it gained independence (Chibita, 2009, p. 298). A committee set up by the British Colonial Office in 1937 and chaired by the Earl of Plymouth had been tasked earlier to investigate the role of broadcasting in the colonies. The committee found that radio broadcasting had great potential and would help in the communication of development issues like agriculture and health (Mwesige et al., 2016, p. 24). Broadcasting was introduced in Uganda by the British colonial administration in 1954 with the establishment of Radio Uganda. The radio mainly aired re-broadcasts of British Broadcasting Corporation (BBC) news and other programmes. Uganda Television started in 1963, about a year after the country became independent (Lugalambi, 2010, p. 20).

In the post-independence period (the 1960s-1990s), governments retained a monopoly over the national broadcasters for nearly 40 years (UNESCO, 2018, p. 51; Mwesige et al., 2016, p. 24; Lugalambi, 2010, p. 20). The governments justified tight control over broadcasting on the premise that it was critical for national unity, social cohesion, and economic development. Radio Uganda broadcasts in several local languages, reaching up to twenty-three (23) by the time it was merged with Uganda Television in 2006, with the enactment of the Uganda Broadcasting Corporation (UBC) Act (Mwesige et al., 2016, p. 25; Lugalambi, 2010, p. 21).

2.2 The broadcast media landscape

Since the liberalisation of broadcast media two decades ago, the sector has seen considerable growth (Chibita, 2016, p. 28). The growth of the sector has been dramatic ever since. Radio Sanyu was the first commercial private FM radio to come on air in December 1993 and into direct competition with the state-controlled Radio Uganda (Lugalambi, 2010, p. 21). Between 1992, when broadcasting was liberalised and 2004, the sector grew from one to 80 radio stations broadcasting in various regional languages (Chibita, 2016, p. 30). Today, according to Uganda Communication Commission, there are 202 operational private commercial radio stations and 38 of them had expired licenses while 8 were unlicensed as of December 2020. Most of these stations are located in Kampala and a few of the other metropolitan centers throughout the country. They broadcast in English and Luganda, or any of the major commercially viable languages from the regions of Uganda that they serve (Chibita & Fourie, 2007, p. 22).

Uganda has media pluralism with a diverse mix of public, private, and community media (UNESCO, 2018, p. 12; Mwesige et al., 2016, p. 25). Steinfeld and Laor (2019, p. 198) observe that public broadcasting differs from private commercial radio in both form and substance. In private commercial broadcasting, radio is perceived as a product, and the station is a private body driven by economic factors. In the public broadcasting model, radio is non-profitable and publicly funded. For instance, Radio Uganda was opened up to competition from private players before a policy on their future was decided (Mwesige et al., 2016, p. 26). Public broadcasting proved difficult to work in Uganda because UBC was not protected by law and the broadcaster was not independent of official interference and in some cases coercion (Lugalambi, 2010, p. 21). In many ways, UBC still operates as a state broadcaster. It broadcasts in 24 of the languages of Uganda. Programmes include news, announcements, political debate, the environment, health, agriculture, education, sports, music, and other entertainment (Chibita, 2016, p. 30; Chibita & Fourie, 2007, p. 22).

Although UBC Radio and Television are public broadcasters, the government has invested a lot in the commercial media to create the Vision Group conglomerates (UNESCO, 2018, p. 51). Two media conglomerates dominate the broadcast landscape in Uganda. Vision Group has evolved into a giant media company with interests in radio and TV while the newspaper remains the group's flagship business. Nation Media Group (NMG) entered the Ugandan media landscape by acquiring a majority shareholding in Monitor Publications Ltd, the holding company of the Monitor papers and KFM radio, which started as Monitor FM before it was re-branded. (UNESCO, 2018, p. 51; Lugalambi, 2010, pp. 15-16).

2.3.1 Radio West context

Vision Group owns five FM radio stations broadcasting in Uganda's major languages and targeting all geographical regions: Vision Voice (English, Central), Bukedde FM (Luganda, central), Etop Radio (Ateso, North Eastern), Radio Rupiny (Langi, North), Radio West (Runyankore, South Western). These private commercial radios broadcast in four designated regional languages – Luganda (Central), Runyakitara (Western), Luo (Northern), Ateso, and Ngakarimojong (North Eastern) – of Uganda (Chibita, 2016, p. 30; Chibita, 2009, p. 300). Radio West was established in 1999 but was acquired by Vision Group in 2008. The radio is located in Mbarara district and has four booster transmitters in Kampala, Fort Portal, Kabale, and Masaka. The station broadcasts in Runyakitara that is Runyankore, Rukiga, Runyoro, and Rutoro, and has a listenership of up to 15 million people. The programmes span information, education, and entertainment (Mugira, 2006, p. 11; Lugalambi, 2010, p. 50; Elliott, 2018, p. 4). The main agricultural programme on Radio West is *"Akazindaro k'omuhingi n`omuriisa"* programme.

2.3.2 The "*Akazindaro k'omuhingi n`omuriisa*" programme

Since 2017 the *"Akazindaro k'omuhingi n`omuriisa,"* loosely translated as the microphone of a farmer and animal keeper, programme has been airing on Radio West. Although the programme started as a segment of the morning show and targeted cattle keepers, it now runs as a feature and entails both animal and crop farming. The programme runs for 5 minutes at midday from 12:25 to 12:30 pm from Monday to Friday and broadcasts in the local language (Runyakitara).

2.4 Radio West and agricultural extension services

In a study that assessed the potential for expanded use of radio by public agricultural extension services, Gorman et al. (2018, p.1) found that the impact of radio can be maximized when it is integrated into wider agricultural extension programmes and is locally relevant. Nabaasa et al. (2022) study examines the effect of institutional factors including extension services on technology adoption among smallholder coffee farmers in Kanugu district, Uganda. It concluded that there is a positive significant relationship between services and technology adoption among smallholder coffee farmers. The use of improved agricultural technologies has been reported as the major strategy to increase coffee production and productivity (Nabaasa et al., 2022, p. 5).

2.4.1 Coffee extension services

Since the liberalisation of the agricultural sector under the structural adjustment programmes (SAPs) in the early 1990s, coffee production has suffured a blow with the collapse of extension services (Kitakaya, 2011, p. 9). Coffee growing and production in Uganda is highly influenced by the agroecological adaptations of the two commercial species. Robusta coffee is grown at warmer and lower altitudes (800-1500m), within the central and western regions of the country. Arabica coffee is grown in high-altitude areas (1500-2300m), within the east, western and north-western regions. The annual rainfall in the robusta growing areas ranges between 1000-2000 mm while in the arabica areas it varies between 1500-2000mm. (Hakiza et al., 2009, p. 28).

Several production constraints confront coffee farmers. Among the production, constraints are limited access to agro-inputs such as coffee varieties resistant to drought, pests, and diseases. Agro-inputs, such as fertilisers and improved seed varieties, could improve coffee production and productivity. Other production constraints are poor agronomic practices and small landholding. Most coffee farmers in the region are smallholders, with an average land holding of 0.23 ha for robusta and 0.36 ha for arabica coffee. Because smallholder farmers are restricted in the number of crops they can grow due to small plot sizes, they intercrop coffee with bananas and beans (Freeman & Qin, 2020, p. 1; Kitakaya, 2011, p. 9; Hakiza et al., 2009, p. 28).

Other constraints confront farmers at postharvest and marketing levels. Because cooperatives that served as coffee marketing channels were ill-prepared to operate competitively in a liberalised and open market, they collapsed and revenues from coffee declined. Also, the collapse of farmer cooperatives led to a proliferation of local buyers, who tend to purchase coffee at the farm-gate price, but such buyers are unable to preserve the identity of the small batches of coffee. This has impacted the coffee quality and further depreciated prices (Kitakaya, 2011, p. 9).

2.4.2 Radio West and agricultural information

Despite the potential of agricultural technologies to increase coffee production and productivity, adoption by smallholder coffee farmers has remained low (Freeman & Qin, 2020, p. 1). The low adoption of technologies and/or agronomic practices is due to limited access to information (Hakiza et al., 2009, p. 28). Abubakar et al. (2009, p. 42) examine the role of mass media in disseminating agricultural information to farmers. Findings revealed a significant relationship between farmers' sources of agricultural information and the relevance of information in solving agricultural problems. Akioya and Ikoyo-Eweto (2018, p. 9) analyse mass media use and preference in information sourcing among farming households in Edo state, Nigeria. It examined the socio-economic characteristics of farmers and identified the mass media they use and preferred as well as constraints limiting their use of mass media. Results indicate a significant difference among mass media preferred by the farmers with radio, television, and newspapers being significantly more preferred to other media.

There is increasing evidence linking access to agricultural information via radio programmes to the adoption of improved agricultural technologies. Njoku (2016) study examines the effectiveness of agricultural radio programmes in technology transfer to rural farmers in Imo State, Nigeria. Results reveal that majority of respondents indicated that the agricultural radio programme was effective in technology transfer to rural farmers. Adeyeye et al. (2021) study investigated the influence of agricultural radio programmes in indigenous languages on farmers' productivity and its implications for agricultural productivity in Nigeria. It concluded that farmers' knowledge, acceptance, and behavior change towards agricultural radio programmes in indigenous languages significantly influence farmers' production and productivity in agriculture. Ronoh (2013, p. 1) analysed agricultural programmes aired on Kass FM radio, a vernacular radio

station broadcast in the Kalenjin language in Kenya. A content analysis was done on agricultural programmes aired in June, July, and August 2012, to find out the effect sponsors had on the content of the agricultural programmes they sponsored. Based on the findings, it was concluded that sponsors of agricultural programmes in Kass FM greatly influence the content of the programmes they sponsor. This has in effect greatly limited the number of topical issues in agriculture discusses in these programmes and thus created a bottleneck in the amount of agricultural information that can be disseminated to farmers in the programmes.

2.4.3 Radio West and Agricultural Development

Ndaghu and Taru (2012, p.111) explain how different studies have shown that different developments which have been successful come with the rise in agricultural productivity. In addition, Planners in countries that are developing have realised that agricultural development could be improved with the use of effective mass media (Purushothaman, Kavaskar, Reddy & Kanagasabapathi, 2010, p. 34). Scholars like Ndaghu and Taru assert that the successes of agricultural development programmes in most developing countries depend on the type and how often the mass media is used to mobilise the masses for development (Ndaghu & Taru, 2012, p. 111). Milovanovic (2014, p. 36) explains that agricultural development can be achieved when farmers access information on seeds, value-addition techniques, machinery, and market information. Farmers may also be interested in knowing weather patterns, the presence of credit facilities, and technical advice about the protection of crops from pests and diseases among others (Food and Agricultural Organisation, 2020, p. 100).

According to Kwesiga et al., (2003, p. 326), radio is one channel of communication that can reach so many farmers with the same agricultural information at the same time within the shortest period. Radio's function as a channel of communication for information transfer makes it play a crucial role in agricultural development. Chadra (2014, p. 23) points out that, 'media can play a much greater role in enabling farmers to take control over their own farming lives, and setting their agendas about political, economic and social development; and in particular the voices of the economically and politically marginalised to be amplified and channeled to mainstream public and political debate'. The radio has proved to be one of the most effective media in promoting agriculture and development in rural areas (Hazbullah & Nazari, 2010, p. 75). Rural communication is an interactive process in which information, knowledge, and skills

relevant for development are exchanged between farmers and information providers either personally or through media such as radio, print, and more recently information and communication technologies (FAO, 2006, p. 7).

Srampickal (2006, p. 80) argues the same by stating that media such as radio can provide information creating a clear understanding of what development is and can inform a large mass of farmers about developmental concepts, programs, and issues. He further states that the mass media provide a vast reservoir of knowledge and information serves as a tool for development and complements other development approaches. It should be noted that information alone is not enough and the participation of the recipients of the people in this case the farmers is very important to voice the gaps to the programmer and producers of these programmes on the issues that they need to be aired for agricultural development. However, there are many causes of insufficient agricultural production, but there is increasing consensus that lack of communication has been one of the central problems (White, 2008, p. 49).

Communication through the radio on best agricultural practices may fill this gap. This is in agreement with White's saying, that there is a need to make radio participatory, where farmers propose issues on these particular programmes if they are to have some tangible impact in their lives. The aim is to put rural people in a position to have the necessary information for informed decision-making and the relevant skills to improve their livelihoods (FAO, 2006, p. 7). Local and community-based media have a particular role in enabling rural communities to access information in their local languages. Regular transmission of radio programmes related to agriculture gives valuable information about new farming methods. As farmer receives useful information on the radio, they can apply new techniques gradually improving farming methods and leading to agricultural development (FAO, 2006, p. 7).

In Uganda, all the major communities have their own ethnic language radio station. Local language radios have given the rural communities in Uganda a voice. Every day, these communities engage in discussions on issues that affect their lives through local radio in a language they understand (Oriare et al., 2010, p .8). That's why Radio West is a case study. Oriare et al., (2010, p. 8) further add that local language radio stations have programming that targets rural communities. Alongside playing music most of the time, radio stations have talk

programmes that feature a variety of topics (Ibid., p. 9). Agricultural programmes, on these radio stations, have content that targets a small-scale farmer. Through these programmes farmers discuss issues that affect them and are also advised by agricultural experts on best agricultural practices. Girard (2011, p. 6) contends that the strength of rural radio as an extension tool is widely regarded because of its ability to reach the majority of farmers and provide them with information relating to all aspects of agricultural production in a language they understand and appreciate.

2.5 Relevance of agricultural programmes to farmers

Given that the radio is used to disseminate agricultural information to coffee farmers, Adamides and Stylianou (2018, pp. 12-13) evaluated a significant Cypriot extension radio broadcast as a source of agricultural information. Findings indicate that half of the farmers listened to the radio programme, while older farmers are more likely to be listeners. Moreover, there are no significant differences between listeners and non-listeners concerning education level. Okwu et al. (2007, p. 14) determined the impact of agricultural radio programmes on farmers in Benu state, Nigeria. Findings indicated that more than two-thirds (66 percent) of the respondents listened to agricultural programmes aired on Radio Benue and less than half (42 percent) of the listeners indicated that the programmes were relevant to their agricultural information needs. The majority of the participants admitted that they gained some new knowledge through listening to the programmes.

Past studies analysing the relevance of agricultural radio programmes to farmers have focused on agricultural information. But this knowledge has not translated into the adoption of agricultural technologies. Agwu et al. (2008, p. 1277) examine farmers' perceived relevance of information on improved agricultural technologies aired on the radio programme. Findings indicate that the agricultural programme had little effect on enhancing the adoption of improved technologies. More than half (56 percent) of respondents were not satisfied with the radio programme. Olajide and Amusat (2012, pp. 46-47) investigate the perceived effectiveness and benefits derived from the agricultural commodity trend programme among farmers. Results indicate that more farmers (55 percent) have a favorable disposition to the radio programme while farmers' disposition was highest in areas of enhancement of farmers' bargaining power and boost in product sales. The programme proved effective in farmers' favorable disposition therefore should be sustained and

broadcast for a longer period. Mwangi (2014, p. 5) study investigated the perception and attitudes of farmers towards Mugambo Wa Murimi radio program to find out how they use agricultural information to improve farming methods. Findings indicate that farmers found the programme useful because they were able to use the information to not only improve their farming practice but also adopt new farming practices.

A study carried out in Uganda by Miwanda, Kabaale, and Kituyi in 2014, 'Using ICTs to disseminate Agricultural Marketing Information to Small Scale Rural Farmers carried out in Western Uganda,' confirmed that 67.4% of the respondents used radio as the main tool to avail farmers market information. The study attributed this to the fact that radio covers every part of the country and radio can be carried and taken anywhere. The study was in agreement with another study that 'Radio plays a big role of any communication channel in the transfer of agriculture and knowledge and information in many countries which was carried out by Computer Technology Associates (CTA) in 2006. It further stated that farmers agricultural related information especially on market is accessed through ICTs which act as the basis for their bargaining, with this information, buyers' cannot cheat farmers because the information about the market will be known once it is shared by the media (Miwanda, Kabaale, & Kituyi, 2014, p. 66). However, the study concluded that agricultural information and programming are not included or even determined by the policy responsible for disseminating information at the national level, and also the information in the mass media does not connect to the interests of rural farmers and therefore the population have limited or no access to relevant and timely information.

Hailu et al. (2017, p. 29) evaluated the potential of 19 radio stations to promote new or improved agricultural technologies to strengthen agricultural extension services in Uganda. The study engaged the station and/or program managers of the selected radio stations. When the collected data was analysed and presented, the results indicated that agricultural programs were not a major component of a radio program with time allocation for agricultural programs comprising only 15 percent of total time allocation even when there is the possibility of radio reaching more farmers through radio to strengthen the adoption of recommended agricultural technologies

2.6 Challenges radio faces in promotion of agricultural programmes

There is growing empirical evidence of the challenges private commercial radios face in promoting agricultural programmes. As Chibita (2016, p. 28) observes, the number of radio stations has multiplied and programming has taken on a more commercialized character. At the same time, there has been significant growth in the volume of programming in the indigenous languages across the broadcast spectrum as most media owners acknowledge the need to compete for an audience and be relevant to the local audience. From purely a business point of view, the Vision Group does not favor programming that is likely to undermine its ability to make a profit (Lugalambi, 2010, p. 47). As such Radio West tends to build its programming around the tastes of the niche market. The station targets a distinct group that market research has determined will produce an optimal "fit" between commercial content and consumers. Hence the market at large offers a wide range of music to suit different tastes (Steinfeld & Laor, 2019, p. 198; Lugalambi, 2010, p. 47). Private commercial radios tend to preserve successful formats and adhere to reliable broadcasting schedules to maintain their listener base (Steinfeld & Laor, 2019, p. 198). As such they are dominated by entertainment programming, which fails to balance between entertainment and information and/or education (Nassanga & Tayeebwa, 2018, p. 13).

Past studies have analysed the challenges radio stations face in promoting agricultural programes. Hailu et al. (2017, p. 29) found that, while most radio stations have some form of agricultural programming, agriculture is not a major component of programmes, with time allocation for agricultural programmes comprising only 15 percent of total time allocations. This negatively affects the ability of various farmers to meet their agricultural information needs, creating barriers to coffee growing and production. Agwu et al. (2008, p. 1285) identify constraints to the effective utilisation of agricultural information aired on radio programmes. Findings indicate that major constraints include the short duration of the agricultural programme, inappropriate scheduling of programme, inability to ask relevant questions and obtain feedback from radio presenters, and language used in presenting the programme. Okwu et al. (2007, p. 14) found constraints to a listenership of agricultural radio programmes to include non-possession of the radio set and unsuitable time of programme presentation.

A major constraint limiting listenership to agricultural programmes is poor or inappropriate scheduling (Akioya & Ikoyo-Eweto, 2018, p. 9). Abubakar et al. (2009, p. 42) also found that in

most cases farmers listened to agricultural radio programmes at night. In private commercial radio, the inclusion of language on the programmes schedule is linked to the number of economically viable speakers (Chibita 2009, p. 301). Okello (2014, p.13) assesses why agricultural radio programmes do not influence youths to participate in agriculture. Findings indicate that there were challenges in the radio listenership of agricultural programmes majorly caused by the inconvenient time of airing, competing more interesting programmes, high cost of buying batteries. The study found a repeat of agricultural programmes at different times of the day and not involving youth farmers in the content production of agricultural programmes.

This chapter reviewed the literature surrounding Uganda's broadcast history and current landscape. It outlines the context of Vision Group and Radio West and its potential for dissemination of agricultural extension services. The chapter concludes with a review of the literature on the relevance of agricultural programmes to coffee farmers and the challenges met by the station in promoting agricultural programmes. The methodology is explained in Chapter Three.

CHAPTER THREE

3.0 Methodology

This chapter shows the methodology that was used in carrying out this study. It describes the population of the study, the sample population, the study design, data collection instruments and methods, data analysis, and ethical considerations. A methodology can be referred to as choices a researcher makes about cases to study, techniques of data collection, and forms of data analysis in planning and executing a study (Silverman, 2013, p. 113). This chapter outlines the research design, research approach, data collection methods, data quality control, data analysis, ethical considerations, gender consideration, and limitations.

3.1 Research Design

The study employed a case study research design. A research design is a comprehensive plan for data collection in an empirical research project (Bhattacherjee, 2012, p. 35). A case study is an empirical method that investigates a contemporary phenomenon in-depth and within its real-world context, especially when the boundaries between the phenomenon and context may not be evident (Yin, 2017, p. 45). The term 'case' was associated with a location, such as an organization (Creswell. 2013, p. 98; Bryman, 2012, p. 67). Radio West was selected as a single case and *"akazindaro k'omuhingi n'omuriisa' programme* as the single embedded case. This study focused on Radio West as a specific case because it exemplifies a broader category of Vision Group. The notion of exemplification implies that a case is often chosen not because it is extreme or unusual in some way but because either it represents a broader category of cases or it provides a suitable context for certain research questions to be answered (Bryman, 2012, p. 11).

The design enabled the researcher to present an in-depth and holistic account of how radio has contributed to coffee growing and production in Uganda. A case study is an ideal research design when a holistic, in-depth investigation is needed (Tellis, 1997, p. 3). It is also relevant when the study's focus is to answer 'how' and 'why' questions (Yin, 2017, p. 46; Wedawatta et al., 2011, p. 6), or when research questions require an in-depth description of a phenomenon (Wedawatta et al., 2011, p. 6). A case study tends to be selective, focusing on one or two issues that are

fundamental to understanding the phenomenon being examined (Tellis, 1997, p. 4). Another advantage of a case study was that the researcher was able to collect data from many sources, ranging from content analysis, in-depth interviews, to focus group discussions (Creswell. 2013, p. 98; Baxter & Jack, 2008, p. 554). A case study is known as a triangulated research design (Tellis, 1997, p. 4). The researcher triangulated the data by combining three qualitative data collection methods, namely: content analysis, in-depth interviews, and focus group discussions. The triangulation of data collection methods was conceived as the complementary compensation for the weaknesses of every single method (Flick 2009, pp. 26-27).

The case study research design is not without weaknesses. Perhaps the greatest concern relates to the presumed need for rigor in conducting case studies. Rigorous case studies require a good deal of time and effort due to the overwhelming amounts of data collected that require management and analysis (Wimmer & Dominick, 2011, p. 142; Baxter & Jack, 2008, p.554). This is further discussed in the data quality control section. Another concern is an apparent inability to generalize from case studies (Wimmer & Dominick, 2011, p. 142; Bryman, 2012, p. 68-78). Proponents of the case study argue that it is not the purpose of this research design to generalize to other cases or populations beyond the case (Bryman, 2012, pp. 68-78). The strengths and weaknesses of these techniques are further discussed in the data collection methods. While there is a tendency to associate case studies with the quantitative approach, most case studies are qualitative in approach (Yin, 2017, p. 24; Neuman, 2014, p. 42; Bryman, 2012, pp. 67-68). Proponents of the case study research design favor qualitative data collection methods for generating an intensive and detailed analysis of the case (Bryman, 2012, pp. 67-68).

3.2 Research Approach

This study employed a qualitative research approach. Qualitative research typically involves a relatively unstructured approach where the aim is to invite informants to talk at length about matters that are broadly relevant to the research with the researcher following up to encourage more elaboration (Hammersley, 2013, p. 12). This enables the researcher to obtain the necessary data in line with the research study. The qualitative research process requires conducting research in the field, mainly in natural surroundings, and trying to capture the normal flow of events (Doyle & Frith, 2004, p. 6). The choice of approach was guided by the research questions,

which required an in-depth and holistic inquiry into the phenomenon under study. Creswell (2013, pp. 47-48) explains that qualitative research is conducted, to understand the contexts or settings in which participants in a study address a problem or an issue.

The qualitative approach is not without weaknesses. A major criticism relates to the small sample size, which does not allow the researcher to generalise the data beyond the sample selected for the study (Bryman, 2012, pp. 68-78; Wimmer & Dominick, 2011, p. 48). Another criticism is that qualitative approaches are too subjective and difficult to replicate. A further criticism is that the qualitative approach lacks transparency in how they are conducted (Bryman, 2012, pp. 68-78). These issues are further discussed in the sampling section and data quality control section. This criticism notwithstanding, the qualitative case study has some advantages. It allowed the researcher to view behavior in a natural setting and, thus increased the researcher's depth of understanding of the phenomenon under study. Another advantage is that the qualitative case study was flexible and allowed the researcher to pursue new areas of interest (Bryman, 2012, p. 45; Wimmer & Dominick, 2011, p. 48). The researcher deployed three major methods of data collection that is (a) qualitative content analysis, (b) Focus Group Discussions (FDG), and (c) In-depth interviews.

3.3 Research Methods

A research method is simply a technique for data collection (Bryman, 2012, p. 46). This study employed qualitative content analysis, and individual and group interviews as data collection methods. The choice of these methods was guided by the purpose and objective of the study (Hansen et al., 1998, p. 260).

3.3.1 Qualitative Content Analysis

The study employed qualitative content analysis as a data collection method. Berger (2011, p. 205) describes qualitative content analysis as "the systematic classification and description of communication content according to certain usually predetermined categories". According to Mayring (2014, p. 130) qualitative content analysis focuses on the analysis units (coding unit, context unit, evaluation unit) and they must be defined. The case of applying qualitative content analysis to an agricultural programme aired on Radio West is explored here because the

technique can be applied to many different kinds of media content. The "*Akazindaro k'omuhingi n`omuriisa*" programme content was categorised into themes relating to coffee growing and production. At the heart of any qualitative content analysis is the category system used to classify radio programme content. There are two ways to go about establishing content categories. Emergent coding establishes categories after a preliminary examination of the data. A priori coding establishes the categories before the data are collected, based on some theoretical or conceptual rationale (Wimmer & Dominick, 2012, pp. 156-180). This study employed the former categorisation system to group agricultural radio programme content into two broad themes, namely: plant and animal production. However, my interest was specifically coffee growing and production. These broad themes were obtained by grouping sub-themes of animal (cattle and pig) rearing and crop (banana, coffee, tea, and sugar cane) growing specific information. However, while such categorisations are often relatively straightforward, when the process of coding is thematic, a more interpretative approach needs to be taken (Bryman, 2012, pp. 289-309). Because the categorisation of the agricultural radio programme is a laborious task, the researcher included in the analysis only the coffee growing characteristics, which could reasonably yield 'useful' information relevant to the research question (Hansen et al., 1998, pp. 91-123).

Qualitative content analysis is a very transparent, unobtrusive, and highly flexible method. The coding scheme and sampling procedures can be set out so that replications and follow-up studies are feasible. Content analysis is often referred to as an unobtrusive method because it does not entail participants in the study. It can be applied to a wide variety of different kinds of unstructured textual information (Bryman, 2012, pp. 304-5). However, the method is not without shortcomings. Hansen et al. (1998, pp. 91-123) argue that qualitative content analysis has been criticised for its quantitative nature, positivist notions of objectivity, and fragmentation of textual wholes. Bryman (2012, p. 306) argues that content analysis can only be as good as the documents on which the practitioner works. It is almost impossible to devise coding manuals that do not entail some interpretation on the part of coders.

3.3.2 In-depth interviews

This study employed the in-depth interview as a data collection method. In-depth interviewing is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, programme, or

situation (Boyce & Neale, 2006, p. 3). In-depth interviews are useful when the researcher wants detailed information about a person's thoughts, experiences, and behaviors or wants to explore new issues in depth (Wimmer & Dominic, 2011, p. 139; Bryman, 2012; Boyce & Neale, 2006, p. 3). In-depth interviews are commended because they are usually longer, more detailed, customised to individual participants, and can easily be influenced by the interview climate (Wimmer & Dominic, 2014, p.14; Wimmer & Dominick, 2011, p. 139; Boyce & Neale, 2006, p. 4). Perhaps the obvious disadvantage of the in-depth interview is that it can be time-consuming due to the period it takes to conduct interviews, transcribe them, and analyse the findings (Boyce & Neale, 2006, pp. 4-5). Interviews are not amenable to generalisation due to the small and purposive samples (Wimmer & Dominick, 2011, p. 139; Boyce & Neale, 2006, p. 4).

3.3.3 Focus Group Discussions

This study employed the focus group interview technique. A focus group can be defined broadly as a type of group discussion about a topic under the guidance of a trained group moderator' (Sim & Waterfield, 2019, p. 3004). Focus group discussions are structured discussions with a group of individuals in a controlled setting (Sharmili, 2009, p. 39). It is a valuable method to obtain information and explore attitudes, feelings, and views on the subject of research, especially when existing knowledge of the subject is inadequate (Sharmili et al., 2009, p. 39). While the individual and group interviews produce similar data in many respects, the researcher used the group interview for various reasons. The group interview technique is more cost effective than an individual interview as a wide range of farmers could be interviewed within the same limitations of time, and resources (Bryman, 2012; Hansen et al., 1998). Also, the technique allowed the researcher to observe how participants made sense of the relevance of the agricultural radio programme to farmers (Bryman, 2012; Hansen et al., 1998). The researcher took account of both conversation and interaction that occurred within the group, capturing how meanings were negotiated and produced (Sim & Waterfield, 2019, p. 3009).

3.4 Recruiting participants

Participant identification and recruitment was the next important step. The researcher purposively recruited the participants for the study. Purposive rather than convenient sampling was done because focus group discussions rely on the ability and capacity of participants to provide relevant information (Nyumba et al., 2017, p. 22; Wimmer & Dominic, 2011, p. 132). The researcher used various methods to recruit suitable participants, including local contacts, telephone, and door-to-door canvassing. With the guidance of the District Agricultural Officers, farmers were identified and recruited from two sub-counties in each of the two districts under study. However, the use of local contact has been criticised for its dependence on the availability, willingness, and accessibility of local contact and the loss of control and direction of the researcher in the recruitment process (Nyumba et al., 2017, p. 22).

Another important consideration is the number of participants to be invited for discussion. Although it is generally accepted that between six and eight participants are sufficient, some studies have reported as few as four and as many as fifteen participants (Bryman, 2012; Sharmili et al., 2009, p. 40; Wimmer & Dominic, 2011, p. 132; Nyumba et al., 2017, p. 22). To guard against the lack of guarantee that all those recruited would attend the discussion, the researcher was over-recruited by two people. Six to twelve participants were interviewed simultaneously, with a moderator leading the respondents in a relatively unstructured discussion about the topic under investigation (Wimmer & Dominic, 2011, p. 132). Therefore ten (10) participants were considered large enough to gain a variety of perspectives and six (6) small enough to become fragmented. Given the small number of participants in the discussion and the one-off encounter, the researcher couldn't exhaustively discuss the topic by conducting a single group discussion (Nyumba et al., 2017, p. 22). Therefore four (4) FGDs that is FGD 1, FGD 2, FGD 3, and FGD 4 were conducted with adult members of the community, who were indirectly or directly involved in coffee growing and/or decision-making in coffee growing and participants for each group were attached to the name of the village that is Bugongi FGD, Kashozi FGD, Bumbaire FGD, and Ishaaka FGD. Another important criterion was listening to the "*Akazindaro k'omuhingi n`omuriisa*" programme aired on Radio West.

3.5 Study population

One goal of scientific research is to describe the nature of the study population, which is a group or class of subjects, variables, concepts, or phenomena (Wimmer & Dominick, 2011, p. 87). For this study, the population was adult members of the community in Bushenyi and Sheema districts in the South Western region of the country. It also included employees of Radio West, the employees of production departments in Bushenyi and Sheema local government, and coffee stakeholders in the two districts. This population was of interest because it comprised members of the case study context (Bryman, 2012, p. 11). The researcher did not, however, examine the entire population due to time and resource constraints (Wimmer & Dominick, 2011, p. 87). Instead, the researcher took a purposive sample from the population. As a subset of the population, the purposive sample was not representative but appropriate to the purpose of the study (Bryman, 2012, p. 11; Wimmer & Dominick, 2011, p. 87).

3.6 Sampling of participants

The study employed purposive sampling to select participants for individual and group interviews. The participants for focus group discussions were selected from four sub-counties; Bugongi and Kashozi in Sheema district, as well as Bumbaire and Ishaaka in Bushenyi district. The study sampled Radio West staff, agricultural technical officers, and coffee stakeholders in Bushenyi and Sheema districts. This sample was considered because it was deemed to be knowledgeable about coffee growing and production.

Purposive sampling was done to provide an in-depth understanding of the phenomenon under study. In total, twelve (12) interviews were conducted with key information from various backgrounds, including two (2) district production officers, two (2) district agricultural officers, two (2) regional extension officers, one (1) coffee factory owner, one (1) chairperson coffee growers – greater Bushenyi, one (1) chairperson for women in coffee, one (1) chairperson for men in coffee, one (1) programme presenter, and one (1) programme producer. For this study, the participants for the in-depth interviews were selected because they were knowledgeable about coffee growing and production. In total, four (4) focus group discussions were conducted

with farmers. The focus groups were conducted until a clear pattern emerged and subsequent groups produced no new information (Nyumba et al., 2017, p. 22). The general rule on sample size for interviews is that when the same information is emerging from the interviewees, then a sufficient sample has been reached (Nyumba et al., 2017, p. 22; Boyce & Neale, 2006, p. 7).

3.7 Data collection

3.7.1 Selection of content and dates

Berger (2011, p. 205) describes content analysis as "the systematic classification and description of communication content according to certain usually predetermined categories". The researcher selected Radio West and focused on the *"Akazindaro k'omuhingi n`omuriisa"* programme content. This was because the programme disseminated agricultural information relevant to coffee growing. Radio West was selected because it exemplifies a broader category of private commercial radios under the Vision Group media conglomerate.

Once Radio West and the *"Akazindaro k'omuhingi n`omuriisa"* programme was selected, the next step was to select the dates or periods to analyse (Hansen et al., 1998, p. 98). With a research question that entailed an ongoing agricultural radio programme, the matter of dates was more open. All the programme segments that aired for three months from January to March 2020 were selected. Altogether, 62 programme segments were analysed. After listening to all 62 programme segments. The programme as the name suggests aired agricultural information related to animal keeping and crop growing. The coffee growing content was identified based on the days it aired in the three months. The programme had content on both animal and crop production, there was content that talked about piggery, sugar cane, fruit growing, tea growing however the researcher picked only those segments that talked about coffee growing and production. In total fifteen (15) programme segments had content that talked about coffee growing. Five (5) programme segments in January, six (6) programme segments in February, and four (4) programme segments in March. The researcher listened to the 15 coffee growing programme content again and picked out the topics of the day. The programme content was

transcribed (see pages 32 to 36) and the data was further discussed in the data analysis. The decision to sample this period of the three months of January, February, and March were more about the cost and time constraints. The period was selected to include an analysis of programme segments aired before the first season of coffee growing. Hence, studying this period was necessary to understand the relevance of programme content to farmers.

3.7.2 Conducting In-depth Interviews

Wimmer and Dominick (2011, p. 139) view the steps for conducting in-depth interviews as follows: problem definition, recruiting respondents, and data collection and analysis procedures. The researcher decided on the research questions that would be answered by interviewees one-on-one. The interview questions were flexible and open-ended mainly to capture the broader views of the participants. They are the most effective way to find out what people think about something as claimed by Jensen (1982, p. 240). He further affirms that individual in-depth interviews have affinities to the conversation and are well suited to tap social agents. To best understand the consent from the angle of Programme Producer, Presenter, and district officials.

I conducted in-depth interviews with two Radio West staff (producer and presenter) to investigate the content aired in the programme and the challenges they face to air such a programme. I also conducted interviews with the district officials that included; two District Commercial Officers, two District Agriculture Officers, one Coffee Factory Owner, one Chairperson Coffee Growers –Greater Bushenyi, one Regional Coffee Extension Officer, two leaders of local coffee growers and one Regional Coffee Technical Officer from Bushenyi Office to assess the relevance of the programme content to coffee farmers. A total of twelve in-depth interviews were conducted using the in-depth interview guide as shown in Appendix III

The researcher purposively selected and recruited participants who could best answer the interview questions as further explained in the sampling procedures. The in-depth interviews were conducted using appropriate recording procedures. Recoding the in-depth interview enabled the researcher to later transcribe the interview (Creswell, 2013, pp.163-164; Wimmer & Dominic, 2011, p. 139; Boyce & Neale, 2006, p. 5). Through these interviews, well, detailed information was attained.

3.7.3 Conducting focus group discussions

The steps involved in conceptualising, carrying out, and analysing focus group discussions are at a general level very similar to those of content analysis. They involve the definition of the research problem, creation of the research instruments (in this case an interview guide), sampling, pilot-testing, and so on (Hansen et al., 1998, pp. 257-258; Nyumba et al. (2017, pp. 21-21). Based on the study objectives, the researcher prepared a list of guiding questions and a group interview schedule to guide the discussions for four (4) FGDs, (see Appendix II).In their respective FGDs that is; FGD 1, FGD 2, FGD 3, and FGD 4, participants were given numbers one to ten that is participate 1, participate 2, participate 3, participate 4, participate 5, participate 6, participate 7, participate 8, participate 9 and participate 10 were asked semi-structured around the three themes: the radio programme content, relevance of content to farmers, and challenges faced while promoting coffee growing and production. The researcher moderated the focus group discussions, posing questions, clarifying where necessary, and using probing follow-up questions. The focus group discussion sessions were conducted in two languages (i.e., Runyankore and English). Each session took approximately one hour since the researcher was mindful of the farmer's activities. The researcher recorded the focus group sessions and subsequently transcribed them. One reason is the simple difficulty of writing down not only exactly what people say but also who says it (Bryman, 2012, p. 504).

3.8 Data quality control

For the researcher, reliability and validity were important criteria in establishing and assessing the quality of the research. There has been some discussion, however, among qualitative researchers about the relevance of reliability and validity for qualitative research (Bryman, 2012, p. 389). As such two major instances have been taken about the issues of data quality control. The first stance is to assimilate reliability and validity into qualitative research with little change of meaning other than playing down the salience of measurement. The second stance is to evaluate the procedures and results of qualitative research according to certain criteria quite different from those used by quantitative researchers (Bryman, 2012, p. 390; Flick, 2009, p. 392).

The researcher employed the latter stance in assessing the quality of this study. In this sense, the researcher ensured validity by checking for the accuracy of the findings. The researcher documented the procedures of the case study, recording as many of the steps as possible (Yin, 2017, p. 46). The researcher transcribed the radio programme content and recorded individual and group interviews, and checked transcripts for obvious mistakes during transcription (Bryman, 2012, p. 12; Creswell, 2009, p. 190). She ensured that there was no drift in the definition of codes, or shift in the meaning of the codes during the process of coding (Creswell, 2009, p. 190). In addition, the researcher increased the reliability of findings by checking the interview guide, pre-testing the individual and group interview schedules, and training interviewers (Flick, 2009, pp. 385-386).

The researcher achieved validity by ensuring the approach is consistent across different researchers and projects (Creswell, 2009, p. 190). To ensure the findings were accurate from the standpoint of the readers of the account and participants, the researcher validated the finding from various sources, including content analysis, and individual and group interviews. These diverse sources of data mutually reinforced each other and helped to validate their authenticity (Neuman, 2014, p. 172). This validation relied more on the dependable, credible researcher and her integrity, self-discipline, and trustworthiness (Neuman, 2014, p. 172; Creswell, 2009, p. 191; Flick, 2009, p. 392). The researcher ensured internal validity by ensuring a match between her observations and the theoretical ideas she developed (Bryman, 2012, p. 389). This criterion was the strength of this qualitative research (Bryman, 2012, p. 389; Creswell, 2009, p. 191). The researcher employed a single case study of a radio programme. Due to the small sample size, the results could not be generalised beyond the case investigated. This criterion was problematic to the researchers because of the tendency to use case studies and small samples (Bryman, 2012, p. 389).

3.9 Data analysis

The data obtained from in-depth interviews and group interviews were transcribed and analysed using thematic analysis. Thematic analysis means that data was examined to extract themes that could be distinguished both between and within transcripts (Bryman, 2012, p. 13). The researcher identified themes by coding, creating categories, and abstraction. The transcript texts

were divided into units of analysis and coded (Cho & Lee, 2014). Saldaña (2013, p. 11) notes that the portion of data coded during the first cycle of coding ranges in magnitude from a single word to a sentence, paragraph, or an entire interview. In second cycle coding processes, the portion coded are the same units, or a reconfiguration of the codes themselves developed thus far. For some writers, a theme is more or less the same as a code, whereas for others it transcends any one code and is built out of groups of codes (Bryman, 2012, p. 578). The researcher coded the transcripts and grouped the codes into categories and emerging themes considered as the highest level of abstraction (Erlingsson & Brysiewicz, 2017, p.5). The thematic analysis was based on the inductive approach because the categories were derived from the data (Elo & Kyngas, 2007, p. 107).

The data obtained from a verbatim transcript of the agricultural radio programme were analysed using qualitative content analysis A starting point for the qualitative content analysis was a transcription of the radio programme content (Erlingsson & Brysiewicz, 2017, p. 2) Transcripts were manually codded and emergent codes grouped into three coffee growing categories, namely: coffee production, postharvest handling, and marketing. These categories were further abstracted into sub-themes based on crop and animal-specific information disseminated on the agricultural radio programme. Two sub-themes were identified under the animal production theme, namely: cattle and pig rearing. And four sub-themes were identified under the plant production theme, namely: banana, coffee, tea, and sugar cane growing. These sub-themes were grouped into two broad themes based on crop and animal-specific information disseminated on the programme.

3.10 Ethical Considerations

Discussion in social research about transgression of ethical principles tend to revolve around the following issues: harm to participants, informed consent, invasion of privacy, and deception (Flick, 2009, p. 35; Creswell, 2009; Wimmer & Dominick, 2011, pp. 67-75; Bryman, 2012, pp.135-143). The research dealt with the issues of social or psychological harm by maintaining the confidentiality and/or anonymity. Sim and Waterfield (2019, p. 3008) contend that social or psychological harm may arise from a breach of confidentiality (refers to the use of research information) and/or anonymity (refers to the attribution of information). The study ensured

confidentiality by using the research information for study purposes and publication in a dissertation. Anonymity was ensured by asking respondents if they would like attribution of research information, for example, the producer of the programme and the Bushenyi Production Officer requested that we should not use their names but titles.

The study addressed the issues of informed consent by giving prospective participants as much information as might be needed to make an informed decision about whether or not to participate in the research (Bryman, 2012, pp. 135-143; Wimmer & Dominick, 2011, pp. 67-75). Such information entailed the purpose of the study, how the interview will be conducted and how long it is likely to last and draws attention to any potential benefits or risks associated with taking part, describing what will be done with the data collected (Sim & Waterfield, 2019, p. 3008). To voluntarily take part in the study, participants were required to sign informed consent forms. They were entitled to decline to participate in the research or to terminate participation at any point (Bryman, 2012, pp.135-143; Sim & Waterfield, 2019, p. 3008). The study addressed the invasion of privacy by obtaining informed consent from prospective participants. To the degree that informed consent was given based on a detailed understanding of what participants' involvement entailed, they acknowledged that the right to privacy had been surrendered for that limited domain (Bryman, 2012, pp.135-143; Wimmer & Dominick, 2011, pp. 67-75).

3.11 Gender considerations

The researcher was conscious to maintain fair gender representation and participation by recruiting both males and females in the study. Out of the twelve (12) key informants recruited for the in-depth interviews, 1 was female and 11 were male. The gender disparity was not intended but a result of the glaring local government employment reality. Out of the forty (40) participants recruited for the focus group discussions, 15 were female and 25 were male. The focus group discussions were not segregated by sex. This gender issue was an important observation, though it did not affect the findings of this study in any way, since coffee is considered a man's crop.

3.12 Limitations

Some of the limitations of the methodology have been discussed under data collection techniques. During data collection, the researcher realised that the content analysis technique

could not be used to assess the relevance of the programme to farmers. So the researcher used focus group discussions to answer the second research question and ascertain group opinions. The in-depth interview technique was used to answer the third research question and ascertain individual opinions about the challenges in promoting agricultural programmes. The limitations associated with the qualitative case study have been discussed in the research design and research approach. The main limitation was the time and resources to carry out the study. In most cases the cost and time to conduct research determine if the study is feasible (Wimmer & Dominick, 2011). The time was undertaken within a short timeframe as unfunded academic research.

Chapter three indicated the steps that were taken while carrying out the study. The study was purely qualitative and this justifies why qualitative analysis, in-depth interviews, and FGDs were the appropriate methods used. The chapter also shows how data was processed to come up with the study themes. This chapter provided a discussion of the data collected and interpretations. The next chapter discusses the findings.

CHAPTER FOUR

4.0 Presentation of findings

This study sought to examine how radio has contributed to coffee growing and production in Uganda using a case study of *"Akazindaro k'omuhingi n`omuriisa"* programme on Radio West. It set out to answer three research questions as follows: (1) what is the composition of coffee growing and production content aired in "*Akazindaro k'omuhingi n`omuriisa*" programme on Radio West? (2) how relevant is the "*Akazindaro k'omuhingi n`omuriisa*" programme content to coffee farmers in South Western Uganda? (3) what are the challenges Radio West faces while promoting coffee growing and production? In this chapter, research questions are answered in meeting the objectives set in Chapter 1 and alluded to in other chapters.

4.1 Composition of programme content

To answer the first question, the researcher analysed content aired on *"Akazindaro k'omuhingi n`omuriisa"* programme to discover its composition and information on coffee growing and production. Findings indicate that the composition of the programme content included two major themes: plant and animal production. Under the animal production theme, two sub-themes were identified based on animal-specific information (cattle and pig rearing). Under the plant production theme, four sub-themes were identified based on crop-specific information (banana, coffee, tea, and sugar cane growing), however the researcher was interested in programmes with coffee information. The researcher after listening to all 62 programmes, picked the programmes that had information about coffee growing and production, from the 62 programmes 15 programmes had information about coffee that is five programmes in January, six programmes in February, and four programmes in March. Since the researcher was only interested in the composition, the topical discussion of the day was classified as a theme and then the sub-topic was classified as sub them and that's how the researcher extracted the themes and sub-themes from the data as indicated in figure 4.1

Coffee programme content for the month of January 2020

On 27th January 2020, the programme presenter Kenneth Kugumisiriza hosted Hon Esther Ampumuza Rwaburiguunda from Nyanga parish,Shwerakye sub-county,Kirihura District. Hon

Ampumuza shared what coffee farmers need to do before growing coffee. She advised farmers to select gently sloping land and avoid very steep slopes, farmers should also select deep, fertile, well-aerated, and freely draining soils with good structure and texture and rich in organic matter. Farmers should mark out the field using pegs at a spacing of 3x3 meters for Robusta. Coffee should be 10x10 feet for Robusta Coffee or 8x8 feet wide for Arabica coffee and 2 x 2 deep.

On 28th January 2020, the programme presenter Kenneth Kugumisiriza again hosted Hon Esther Ampumuza Rwaburiguunda from Nyanga parish, Shwerakye Sub County, Kirihura District. The guest informed the listener that coffee has two planting seasons that is from March to May and September to November. She further advised farmers to buy coffee seedlings from certified nursery beds. She emphasized that planting of coffee should be done at least after 4 consecutive rainy days of the rainy season and the planting should be done in the evening hours of the day. From this programme.

On 29th January 2020, the programme presenter Kenneth Kugumisiriza hosted Hon Esther Ampumuza Rwaburiguunda from Nyanga parish, Shwerakye Sub County, Kirihura District for the third time. The guest advised farmers on inter-cropping and inter-planting in the young coffee garden. She gave a list of crops recommended while practicing intercropping which included bananas and legumes, for example, soya beans, ground nuts, and non-climbing beans, she adds that legumes must be planted in the center 2 meters of the inter-row leaving a clear 0.5 meter between them and the coffee tree while bananas are inter-cropped in the ratio of 1 banana to 4 coffee trees.

On 30th January 2020, Kenneth Kugumisirizs, the presenter of the programme hosted Kakuru Emmanuel from Kyakasa Kasoozi, Kasoozi division Sheema Municipality, Sheema who is a teacher by profession, the farmer explained the importance of soil testing. He requested farmers to carry out soil testing if they are to benefit from agriculture. He added that Soil testing is good, especially when farmers are planning to grow coffee.

On 31st January 2020, the presenter Kenneth Kugumisiriza again introduced the guest as Kakuru Emmanuel from Kyakasa Kasoozi,Kasoozi division Sheema Municipality,Sheema. The guest shared with the listener the importance of using fertilisers, especially in a coffee plantation. He advised farmers that if they're to benefit from agriculture they should apply fertilisers in their

soils to get bump harvests. The presenter also reminded the listener that *"Akazindaro k'omuhingi n`omuriisa"* programme is sponsored by Babikora Chemical Industries Ltd; this company has been in Uganda since 1973 and sells fertilisers.

Coffee Programme content for the month of February 2022

On 06th February 2020, Kenneth Kugumisiriza the presenter of the programme introduced Dick Nuwamanya who was an official from Uganda Coffee Development Authority (UCDA). The guest talked about the quality of coffee production and processing centers/factories. In the programme, the guest explains the steps coffee processors/factory owners must go through before they start the business of coffee processing. The first step was registering with Uganda Coffee Development Authority. The guest highlighted the guidelines a factory owner/operator must follow before a certificate is issued.

On 20th February 2020, the programme looked at the nature of processing plants /factories. The programme presenter Kenneth Kugumisiriza again hosted Dick Niwamanya. The guest informed the audience that coffee is food. He emphasised the quality of machines and the cleanliness of the factory. The guest requested farmers not dry their coffee on bare ground because it affects the quality of the coffee. He further added that whoever does not adhere to the guidelines will be arrested and charged in the courts of law.

On 24th February 2020, the programme presenter Kenneth Kugumisiriza and his guest Dick Niwamanya continued to discuss the nature of the factories. According to the guests, the factory owners are not supposed to dry coffee at the factory. He adds that coffee is supposed to be brought to the factory to be processed but not to be dried from there. He further warns that whoever is found drying coffee at the factory, his coffee will be confiscated and the factory owner will be arrested and charged in the courts of law.

On 25th February 2020, the Presenter Kenneth Kugumisiriza informed the listener that the programme they're are going to listen to was a continuous programme on Coffee processing and the nature of the factory and his guest was Mr. Dick Niwamanya from Uganda Coffee Development Authority. The guest explained what coffee drying is. He explained that coffee drying should begin immediately after harvest to avoid the development of undesirable taints and

molds. The cherries are spread out to dry in the sun on suitable drying surfaces for example raised trays or tarpaulins. The coffee must be frequently stirred to achieve uniform drying. The coffee should not be rewetted at any time during the drying regime.

On 26th February 2020, The programme presenter Kenneth Kugumisiriza, again introduces Dick Niwamanya, he again reminded the listener that the programme was continuous of the coffee programmes they have been listening to. The guest talked about domestic coffee consumption in Uganda. He informed the listener that domestic coffee consumption was still very low at about 3 – 5 % of Uganda's total annual production. He explained various reasons why the consumption is low, namely; Low promotion on the domestic market to combat the traditional misgivings against coffee consumption, the domestic roasters face stiff competition for the good graded coffee, which can be exported for higher revenues and packaging materials among others. However, he noted that several new coffee shops had begun operating and these have continued to attract a sizable middle-class clientele. From this programme, the researcher identified a theme of value addition

On 27th February 2020. The presenter Kenneth Kugumisiriza begins the programme by asking his guest Dick Nuwamanya whether in Western Uganda farmers have started adding value to their coffee. The guest informed the listener that many farmers had taken up the innovations. He gave an example of Sheema where farmers had started washing their coffee. He explained that mucilage is removed by washing in a washing channel or vat filled with water. The density of the parchment coffee is slightly higher than the water and the beans will sink to the bottom of the vat. It is therefore necessary to continuously stir the beans using rotary stirring rods or manually using spades in the washing channel.

Coffee programme content for the Month of March 2022

On 2nd March 2020, the Presenter of the programme Kenneth Kugumisiriza hosted Jero Twesigomwe a farmer from Rwemego parish, Kyicheeche Sub-county, Ibanda district. He talks about coffee as a plant that can give you money season in and season out for a long. He encourages every family to grow coffee because the prices are high and the market is available.

On 3rd March 2020, the Presenter of the programme Kenneth Kugumisiriza informed the listener that he still has Jero Twesigomwe as his guest. He introduced him as a farmer from Rwemego parish, Kyicheeche Sub county, Ibanda district. The topic of the day was cooperatives and forming groups to access the market easily. The guest explains how some farmers are suffering because they don't want to join farmer groups He gives an example of Kagango Coffee Farmers Association which started with very few farmers; they started storing their coffee at one collection point. They are now over 1000 coffee farmers. They own a factory and transport their coffee outside Uganda. They don't sell their coffee to the middlemen who were cheating them. From this programme.

On 4th March 2020, the presenter Keneth Kumisiriza and Jero Twesigomwe discussed the prices of coffee. The guest noted that the prices of coffee keep on fluctuating. He explained to farmers that the prices of coffee are determined by the world market. He added that coffee farmers in Uganda have not learned how to add value to their coffee because they still export green beans. He advised farmers to start adding value to their coffee if they are to fetch premium prices.

On 5th March 2020, the presenter Keneth Kumisiriza and Jero Twesigomwe discussed the issue of coffee prices. The guest assured the listener that women love rich and hard-working men. He explained that men who have coffee trees talk like a man in meetings and even in the village centers. He added that women and children can take care of the coffee plantation even when the man is away and since the market is available, the family cannot be hit by poverty because the prices of coffee are always high.

Table 4.1: Themes extracted from programme content composition based on the coffee growing information.

Months	Themes	Sub themes picked from the content
January 2020	Coffee inputs and production	**a.** Information about coffee growing seasons **b.** Knowledge about fertilisers **c.** Soil testing importance
February 2020	Coffee postharvest	i. Nature of processing plants ii. Innovations/Value addition
March 2020	Coffee marketing	• Market channels and coffee dealers • Knowledge about coffee prices

Source: Field research 2020

The composition of the coffee growing content was further analysed to identify the categories of information on coffee production, postharvest handling, and marketing which were derived from grouping the codes. The codes were mainly based on topics relating to coffee production, postharvest handling, and marketing information in the programme content aired during the study period. During interviews, the producer explained that the programme provides information to farmers. "The programme started with a segment in the early morning show. Then farmers requested for more hours, especially those who wanted to participate. We, therefore, scheduled it from 12:25 to 12:30" (Programme Producer, personal communication, May 22, 2020).

The programme hosted guests, such as coffee experts from UCDA, politicians, and farmers, who covered various topical issues on coffee inputs, production, postharvest handling, and marketing categories.

4.1.1 Coffee inputs and production content

Coffee production covered various topics ranging from land selection, seedlings, planting, and seasons, to inter-cropping. The land selection topic covered issues relating to the selection of gentle slopes, deep fertile, aerated, and well-draining soil, with good structure and texture, and rich in organic matter. The coffee seedling topic covered issues such as buying seedlings from certified nursery operators. Coffee planting covered issues on proper spacing and marking the field. The topic on seasons covered issues relating to when to plant coffee, and how planting should be done, for instance, after four consecutive rainy days and in the evening hours. The inter-cropping topic covered issues on inter-cropping coffee with bananas and legumes, such as soya beans, ground nuts, and non-climbing beans, and the spacing of inter-crops. Other coffee inputs topics included soil testing and fertiliser use.

4.1.2 Coffee postharvest content

The coffee postharvest handling covered diverse topics ranging from processing centers and/or factories to coffee dying. Topics on coffee processing centers covered issues relating to steps necessary to establish processing centers and/or factories, including registration with UCDA, following guidelines before certification is issued, as well as the quality of machines and cleanliness of the factory. Topics on coffee drying covered issues relating to how coffee drying

should begin immediately after harvest to avoid molding, cherries should be spread out under the sun on suitable drying surfaces such as trays or tarpaulins, coffee must be frequently stirred to achieve uniform dying, coffee should not be dried but processed from factories, coffee should not be dried on the bare ground because it affects the quality, flouting guidelines leads to arrest and charging in courts of law.

4.1.3 Coffee marketing content

The coffee marketing covered diverse topics ranging from domestic coffee consumption to value addition and cooperatives. Domestic coffee consumption is still low (about 3-5 percent of total annual production) due to low promotion on the domestic market, and domestic roasters face stiff competition for good-graded coffee, which can be exported for higher revenues. However, new coffee shops attract a sizeable middle-class clientele. Coffee co-operatives and farmer groups link farmers to markets by bulking coffee and selling it for a high price. For instance; Kagango Coffee Farmers Association started with very few members and now over 1000 farmers are members. They not only own a factory but also bulk coffee and sell it to international markets. Farmers suffer when they don't join groups. Coffee can generate income for farmers because of the market. Coffee prices keep on fluctuating since they are determined by world markets. If coffee farmers want to fetch premium prices, they should add value not export green beans (Akazindaro k'omuhingi n`omuriisa, March 5, 2020).

4.2 Relevance of programme content to farmers

To answer the second question, the researcher relied on participants' responses to individual and group interviews to assess the relevance of the programme content to the farmers. The finding revealed that the majority of the FGDs participants believed that the radio programme content was relevant and useful to coffee farmers, only a few were not sure whether it was relevant or not, while 100% of the in-depth interview participants believed the programme was relevant and useful. The relevance of the programme content to farmers re-emerged in three major categories: coffee inputs and production, postharvest handling, and marketing.

4.2.1 Coffee inputs and production

Findings revealed that the content aired on the programme was relevant to farmers for coffee production. The coffee production information covered areas of land selection coffee planting seasons, and coffee intercrops. This observation was supported by the participants in in-depth interviews and FGDs. One of the participants in FGD 4 noted that the agricultural radio programme is very important. "There are many programmes on radio and activities like growing coffee and how it should be grown. As farmers, we are benefiting from this programme" (FGD 4, Participant 9).

Participants indicated that farmers through agricultural programme acquire knowledge of coffee growing. "During talks on the radio, we emphasize the types of coffee people should grow." (D, Nuwamanya, personal communication, June 5, 2020). This observation also reveals that radio helps farmers improve coffee production as supported by farmers during FGD 1 as she notes:

> Initially, most farmers in my area were not conversant with coffee growing, but with radio programmes we can tell when to plant our coffee. The situation has improved for the better. We have a quick source of information about coffee growing and harvesting (FGD 1, Participant 4).

Participants confirmed that there were two main coffee planting seasons in their districts. The majority of farmers knew of these planting seasons and this was partly attributed to the radio programmes. "Farmers need to know the seasons when to plant and when to harvest. It is common knowledge to many that they have to harvest between May and August" (Programme Producer, personal communication, May 22, 2020).

Findings also revealed that the content aired on the programme was relevant to a farmer for coffee inputs. The coffee input information covered issues of soil testing, coffee seedling purchase, and fertilizer use. In one of the programme, the guest explained;

> Soil testing is something farmers should yearn for. If we are to benefit from agriculture, we must shift from our traditional methods of farming. When you test your soil you know which type of crop can grow there. Soil testing is good, especially when you are planning to grow coffee and watermelon. (Akazindaro k'omuhingi n`omuriisa, January 30, 2020)

This observation was supported by participants during in-depth and focus group interviews. "We tell farmers to carry out soil testing and also buy coffee seedlings from certified nursery bed operators. And I want to thank radios because they are doing a good job in educating farmers" (D, Nuwamanya, personal communication, June 5, 2020).

It was observed that farmers are advised to test soils to ascertain whether they are fit for coffee production. One of the respondents acknowledged that "the other day I heard someone explaining soil testing on the radio, the government must give us a hand. Coffee farmers have been victims because they don't invest in proper soil management" (C, Mbangirana, personal communication, May 5, 2020).

It emerged that most panelists conveyed information about the use, application, and related advantages of fertilisers. This was also cited in all four FGDs and in-depth interviews. Most respondents acknowledged that fertilisers use was emphasised in the programmes. In one of the interviews, a participant explicitly noted:

> We have been running a program called the 'agriculture cluster development' project and the enterprises being promoted are coffee and beans. I have been appearing on the radio once a week. However, we've been talking about fertilizer application, not practices because this project promotes the use of fertilisers and other agro-inputs, post-harvest handling, pest control, and pruning materials (Production Officer, Bushenyi, personal communication, June 5, 2020).

4.2.2 Coffee postharvest handling

Findings revealed that the content aired on the programme was relevant to farmers for coffee post-harvest handling. Coffee postharvest information covered areas of processing centers and/or factories, coffee drying, and value addition. Participants revealed that most farmers have adopted new technologies for coffee harvesting, drying, and processing. "This means that we have to focus on building the capacity of rural farmers at the grass root level to manage every step of

innovation and value chain" (D, Nuwamanya, personal communication, June 5, 2020). Respondents also indicated that guests in the programme disseminated information about coffee processing centers and the cleanliness of factories. "To sustain coffee production, we must include a systemic approach of processing plants or factories that are constructed to serve the purpose" (D, Nuwamanya, personal communication, June 5, 2020).

Participants reported that the programme emphasised value addition if farmers were to benefit from the coffee value chain. Many farmers were adding value by washing their coffee using innovative technologies, such as carbonic maceration, fermentation, and roasting coffee beans among others. Mucilage was removed by washing coffee in channels of vats filled with water. "We should learn to add value to our coffee from here in Kyabugimbi" (FGD 2, Participate 1). The coffee beans sink to the bottom of the vat because the density of the parchment coffee is slightly higher than the water. It was therefore necessary to continuously stir the beans using rotary stirring rods or manually using spades in the washing channels.

4.2.2 Coffee marketing

Findings revealed that the content aired on the programme was relevant to farmers for coffee marketing. The coffee marketing information covered areas of cooperatives and/or farmer groups and coffee prices. It was observed that agricultural financial institutions provide credit to farmer groups that have well-known markets. This observation was supported by one of the participants in FGD 4 who said;

> Banks should come up with an arrangement to support farmers. The loans they have right now are not for farmers. Yes, I heard on the radio that they will be supporting farmers in their groups but what about some of us who prefer being alone? I can as well process my coffee (FGD 4, Participant 1).

It also emerged that farmers are advised on coffee prices and possible areas where they can market their coffee products. Another participant in FGD 2 also explained how he learned from the radio that coffee prices are set by the world coffee market: "I was not aware and would never know that coffee prices are determined by the world market. Imagine our coffee competing with that of Ethiopia! This makes me happy. We are cheated by middlemen. They buy our coffee cheaply and bag much profit." (FGD 2, Participate 1).

Participants indicated that both men and women are involved in the coffee value chain process from the inputs, production, postharvest, and marketing of coffee. Some production activities were gender specific as women were involved in weeding and harvesting while men engaged in land preparation, pruning, and marketing of coffee. This observation was confirmed by the female participants during the FGDs. They also revealed that women do not own land and, therefore, viewed their role as supportive of the husband's coffee growing.

4.3 Challenges of promoting coffee growing

To answer the third question, the researcher relied on individual and group interviews to establish the challenges radio faces in promoting coffee growing. Findings indicate that challenges related to a limited radio signal, short duration of programmes, poor scheduling of the programme, limited sponsors for the programme, audience preference for other programmes, and presenters' lack of knowledge on coffee growing. It was reported that the radio signal was poor in some areas, which hindered the contribution of radio in promoting coffee growing and production. "We have so many radio stations in our district but the signal is poor" (Production Officer, Bushenyi, personal communication, June 5, 2020). One of the participants in the FGDs attributed the poor radio signal to the nature of the environment as some places were hilly and others flat. One participant asked;

> Can you imagine that I only listen to the radio when I am in my bedroom because of the poor signal? I have to place the radio set in one specific place if I am to listen to Radio West (FGD 2, Participant 4).

Participants confirmed that the short duration of the agricultural programme was a major barrier to the contribution of radio in promoting coffee growing. "Why is the programme run for very

few minutes?" (J, Mbabazi, Personal Communication, June 5, 2020). It was observed that the agricultural programme was aired for five minutes from Monday to Friday. The short time of airing the agricultural programme was attributed to factors such as cost and time of production and competition from sponsored programmes. In an interview with the programme producer he said;

> Agricultural programmes are field-based. They are expensive to run compared to music shows. Someone has to go to the field, record, and [then] come back to edit. I mean all these [activities] need money. (Programme Producer, personal communication May 22, 2020).

The presenters visit farmers in the field and record them for 30 minutes to 1 hour. The farmer or coffee expert shares his or her experience depending on what they do. They narrate a success story focusing on how they started, their achievements, and their challenges. With the help of the producer, the presenter runs this programme for a series of five minutes until it ends.

In addition to the short duration of the agricultural, participants reported that the programme scheduling was not appropriate for farmers. "I have never listened to this programme because at midday I am always busy. Let it be given enough time and rescheduled according to the farmers' activities" (FGD 1, Participant 7). The scheduling was a barrier to the contribution of radio in promoting coffee growing and production. However, some farmers coped with this challenge by going with their radios to the garden.One participate noted;

> I can't leave my radio behind when I am going to the farm, the programme is at midday and at that time I am still in the garden although most of the farmers are already home. I appreciate the importance of this programme where we learn from other farmers (FGD 1, Participant 3).

Participants revealed that the agricultural programme had limited sponsorship, though the programme was sponsored by Babikora Chemical Industries Ltd. This was a major barrier to the contribution of radio to the promotion of coffee growing. As the radio management was not investing in the agricultural programme because it did not have sponsors. "We need sponsors!" Programme Producer (Personal Communication May 22, 2020) exclaimed. The Ministry of

Agriculture, Animal Industry and Fisheries (MAAIF) through Operation Wealth Creation (OWC) and Uganda Coffee Development Authority (UCDA) in partnership with the U.S. Agency for International Development (USAID) have been running coffee growing messages on the agricultural programme aired on Radio West. "Where is; Operation Wealth Creation, NAADS, and UCDA? They should come and we work together"(Programme Producer, Personal Communication May 22, 2020).

Participants asserted that presenters of the agricultural programme had limited knowledge of coffee. This was a barrier to the contribution of radio in promoting coffee growing and production. It was observed that a lack of knowledge on coffee growing greatly affected participation and dissemination of information during the programme.

> Coffee growing requires expert knowledge and this can only be achieved once presenters are trained. The training should be arranged with different radio stations. Why are the technical people not farmers? (Programme Producer, personal communication, May 22, 2020)

Participants reported that farmers had a preference for other programmes such as music, sports, and political shows. "All of us enjoy different programmes because they are presented during prime time. I listen to the radio only when there are political and sports shows. They are given enough time and I enjoy them." (FGD 1, Participant 7). These sponsored programmes often compete with agricultural programmes, which hinders the contribution of radio to the promotion of coffee growing. "Farmers should pick interest in these programmes. Extension officers can't be everywhere but they can reach a bigger number on the radio" (C, Mbangirana, personal communication, June 5, 2020).

> Why is the programme run for very few minutes? A whole programme that teaches about something [coffee] that brings money for this country [is run for a short time] and then they play music the whole day and football! I think radio people should get serious, and do something (J, Mbabazi, personal communication, June 5, 2020).

This chapter answered research questions to meet the objectives. The next chapter presents a discussion of the study findings in light of the literature review and theoretical framework.

CHAPTER FIVE

5.0 Disscusion of findings

This chapter comprises a disscussion of the study findings in light of the literature review in Chapter Two and the theoretical framework outlined in Chapter One. This study sought to examine how radio has contributed to coffee growing and production in southwestern Uganda. It utilised the *"akazindaro k'omuhingi n`omuriisa"* programme aired on Radio West as a case study to assess the composition of coffee growing content and the relevance of the content to farmers as well as the challenges in promoting agricultural programmes.

5.1 Composition of programme content

Findings of the content analysis revealed that, although the agricultural programme contained both animal and plant production content, the animal-specific content was on cattle and pig rearing while the plant-specific content was on sugar cane, tea, bananas, and coffee growing. Further analysis of coffee growing content revealed that it was composed of information related to all the stages of the coffee value chain – inputs, production, postharvest, and marketing information. This observation confirms the findings of previous studies that identified several constraints that confront the farmer at all stages of the value chain. At the coffee inputs and production stage, coffee constraints related to limited access to credit and agro-inputs such as fertilisers and improved coffee varieties, poor agronomic practices, and limited landholding. At the postharvest and marketing level, constraints poor postharvest handling, poor quality coffee, limited access to markets, and fluctuating coffee prices (Freeman & Qin, 2020, p. 1; Kitakaya, 2011, p. 9; Hakiza et al., 2009, p.28).

This observation corroborates previous studies that found that agricultural programmes have the potential to disseminate agricultural information. The information on the inputs stage covered areas of soil testing, fertiliser use, and purchase of seedlings while the production stage covered issues of land selection, planting and seasons, as well as intercropping. The information on the

postharvest stage covered diverse areas ranging from drying to processing centers/factories and value addition. The information on the marketing covered areas of foreign and domestic markets as well as value addition and cooperatives. The low adoption of technologies and/or practices is due to limited access to agricultural information (Freeman & Qin, 2020, p. 1; Hakiza et al., 2009, p. 28).

This current study employed the uses, gratification, and dependency theories as the framework for analysis of the contribution of radio in promoting coffee growing and production. The framework enabled the researcher to understand how farmers in southwestern Uganda actively seek out Radio West and use the *"akazindaro k'omuhingi n'omuriisa"* programme to realize gratifications such as coffee information needs. From the content analysis, it was observed that the agricultural programme was composed of content related to all the stages of the coffee value chain. Such information is relevant to tackle constraints related to coffee inputs, production, postharvest handling, and marketing. One of the central assumptions of the uses and gratification theory is that farmers are motivated to actively, freely, and knowingly make their radio and programme choices to meet their self-identified coffee information needs (Perks, Turner, & Tollison, 2019, p. 3; Liu, 2015, p. 77; Baran & Davis, 2012, p. 242).

5.2 Relevance of the programme content to farmers

Findings revealed that participants believed that the agricultural programme content was relevant, especially at the input, production, post-harvest, and marketing stages of the coffee value chain. Previous studies have shown that farmers find radio programmes relevant to their agricultural information needs (Okwu et al., 2007, p. 14). The agricultural programme was relevant to farmers for accessing information related to coffee inputs and production technologies. By disseminating information related to accessing agro-input and good agronomic practices, the programme promoted the adoption of improved agricultural technologies. Coffee production is linked directly with the adoption of improved agricultural technologies, which is also influenced by the availability of adequate information (Hailu et al., 2017, p. 29).

Participants indicated that the agricultural programme was relevant to farmers for accessing information related to coffee postharvest handling. By disseminating information related to coffee postharvest handling, the programme promoted the adoption of postharvest and value-addition technologies It was observed that the agricultural programme was relevant to farmers for accessing information related to coffee marketing. This observation was confirmed by Kitakaya's (2011, p. 9) study, which revealed that cooperatives and farmer groups not only link farmers to markets and provide extension services. Participants revealed that financial institutions provide credit to farmer groups and/or cooperatives that have well-known markets. It was observed that cooperatives eliminated middlemen, enabling farmers to directly sell their coffee to international markets. Although coffee prices keep fluctuating based on world markets, they are higher than those offered by middlemen at the farm gate. This observation is consistent with Abubakar et al. (2009, p. 42) study that revealed a significant relationship between farmers' sources of agricultural information and the relevance of information in solving agricultural problems.

The coffee farmers in South Western Uganda seek out Radio West and use the *``akazindaro k'omuhingi n'omuriisa''* programme to gratify their coffee information needs related to coffee inputs, production, postharvest, and marketing. Herzog (1944) in Dolan et al. (2015, p. 2) used the term gratification to describe specific types of satisfaction reported by audience members of radio programmes. The coffee information needs to be gratified by the radio and agricultural programme were related to coffee inputs, production, postharvest, and marketing. Coffee input information was relevant in soil testing, seedling purchase, and fertiliser use. Coffee input information was relevant in soil testing, seedling purchase, and fertiliser use. Coffee postharvest information was relevant for coffee drying, processing, and value addition. Coffee marketing information was relevant for cooperatives, farmer groups, and coffee prices. For instance, if coffee farmers in South Western Uganda believe that Radio West and the *"akazindaro k'omuhingi n`omuriisa"* programme was relevant for gratifying their coffee inputs, production, postharvest, and marketing information needs, those farmers will probably seek out the radio and use the agricultural programme to gratify their coffee growing.

5.3 Challenges the radio faces in promoting coffee growing

Findings indicate that challenges related to a limited radio signal, short duration of agricultural programmes, limited sponsors for agricultural programmes, audience preference for other programmes, and presenters' lack of knowledge on coffee growing. It was reported that poor radio signal was a barrier to the contribution of radio to the promotion of coffee growing. This observation is corroborated by Otene et al. (2015, p. 326) study that found that poor signal of radio stations is a major barrier and recommends installing efficient transmitter. This observation was not surprising given the hilly nature of the environment in the study areas.

It was observed that the agricultural programme was aired for five minutes from Monday to Friday. This observation is confirmed by previous studies that found that the short duration of agricultural programmes was a barrier to the effective utilisation of agricultural information (Agwu et al., 2008, p. 1285). Participants explained the short duration of the programme in terms of the cost and time implication of producing agricultural programmes. As the main agricultural programmes, the short duration was insufficient to cover the various crop and animal-specific information. This short duration of the agricultural programme was a major barrier to the contribution of radio in promoting coffee growing.

Participants confirmed that the agricultural programme scheduling was poor and inappropriate for farmers. This observation was consistent with previous studies that found poor or inappropriate scheduling as a major constrained to agricultural programmes listenership (Okello, 2014, p.13; Agwu et al., 2008, p. 1285; Okwu et al., 2007, p. 14; Akioya and Ikoyo-Eweto, 2018, p. 9). Such studies have found that, although most farmers tune in to the radio throughout the day, the best and preferred time to listen to agricultural programmes was in the evening and at night (Hailu et al., 2018, p. 119; Abubakar et al., 2009, p. 42). The poor scheduling of the agricultural programme was a barrier to the promotion of coffee growing. A repeat of the agricultural programme at different times of the day to remedy the issues of inappropriate scheduling (Hailu et al., 2017, p. 29; Okello, 2014, p.13).

It was observed that the agricultural programme had limited sponsors, though it is currently sponsored by Babikora Chemical Industries Ltd. This observation is consistent with past studies that have identified the influence of sponsors on the content of agricultural programmes (Ronoh, 2013, p. 1). Previously, the programme was sponsored by the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF, Operation Wealth Creation (OWC), and Uganda Coffee Development Authority (UCDA) in partnership with United States Agency for International Development (USAID). Past studies have identified the collaboration of radio stations with international and regional NGOs to promote specific agricultural technology (Hailu et al., 2017, p. 29). The limited sponsorship of agricultural programmes was a major barrier to the contribution of the radio to promoting coffee growing and production as the station management did not invest in programmes without sponsorship. This has in effect greatly limited the number of topical issues in coffee growing discussed in the programme and thus created a barrier in the amount of coffee growing information that can be disseminated to farmers.

Participants said that farmers had a preference for other programmes such as music, sports, and political shows. This finding is consistent with Okello's (2014, p.13) study, which found that the challenge in agricultural programme listenership was related to competing and more interesting programmes. Radio shows educational programmes related to health and agriculture, news, and entertainment featured among the favorite programmes (Hailu et al., 2018, p. 119). While most radio stations have some form of agricultural programming, Hailu et al. (2017, p. 29) found that agriculture is not a major component of their programmes. This programming format often limits the ability of farmers to meet their coffee growing information needs and, thus hinders the contribution of the radio to the production of coffee growing and production.

Participants reported that presenters of the agricultural programme had limited knowledge of coffee. It was observed that a lack of knowledge on coffee growing greatly affected participation and dissemination of information during the programme. This observation was confirmed by past studies that found that the inability of farmers to interact with presenters in the language used to present the programme was constraining the dissemination of agricultural information (Agwu et al., 2008, p. 1285). This was a barrier to the contribution of radio to promoting coffee growing

and production. There is evidence from studies linking the inclusion of language on the programme schedule to the number of the economically viable speaker (Chibita, 2009, p. 301). Preference for the radio and broadcasting language seems complex in a very diverse community such as South Western and central Uganda, which Radio West covers. Although languages vary and differ in the geographical area coved by the station, coffee farming systems and factors limiting production and productivity are essentially similar in Central and South Western Uganda (Hailu et al., 2018, p. 119).

The uses, gratification, and dependency framework make good conceptual sense in a study that attempts to understand the relevance of the programme content to coffee farmers and the challenges radio faces in promoting coffee growing. In its most complex form, the uses and gratification perspective predicts that radio consumption gratifications are influenced by social institutions, media opportunities, circumstances, personal traits, and needs (Littlejohn & Foss, 2009, p. 979). Other variables enter into the farmers' consumption behaviors of the radio station and the agricultural programme. Such variables include limited radio signal, short duration of agricultural programmes, limited sponsors for agricultural programmes, audience preference for other programmes, and presenters' lack of knowledge on coffee growing.

Therefore, the study argues that farmers depend on Radio West and the agricultural programme to gratify their information needs related to coffee growing and production. And such dependencies lead to increased knowledge and adoption of technologies relevant to coffee input, production, postharvest, and marketing.

5.4 Summary

From the above, it is good to note that radio programmes like *"Akazindaro ko muhingi n`omuriisa"* play a critical role in community education, and socio-economic mobilization and are principle in engaging masses on the challenges and possibilities accruing from government programmes. Communities in the districts of Sheema and Bushenyi have benefited from this radio programme about coffee farming and production even though it has come with a few setbacks. The next chapter will discuss the conclusion, recommendations, and areas for further study.

CHAPTER SIX

6.0 Conclusion and Recommendation

This study sought to examine how radio has contributed to coffee growing and production using a case study of *"Akazindaro k'omuhingi n`omuriisa"* programme on Radio West. The research set out to answer three questions as follows: (1) what is the composition of coffee growing and production content aired in *"Akazindaro k'omuhingi n`omuriisa"* programme on Radio West? (2) how relevant is the *"Akazindaro k'omuhingi n`omuriisa"* programme content to coffee farmers in South Western Uganda? (3) what are the challenges Radio West faces while promoting coffee growing and production? In this chapter, the summary of findings, conclusions, recommendations, and areas of further research are outlined.

6.1 Summary of findings

From the content analysis, it was observed that the composition of the programme content included both animal and plant production content. The animal-specific content was on cattle and pig rearing while the crop-specific content was on sugar cane, tea, banana, and coffee growing. Further analysis was done on the coffee growing content to reveal its composition. Findings indicate that coffee growing content was composed of input, production, postharvest, and marketing information. Participants in the in-depth interviews and FGDs revealed that farmers believed that the agricultural programmes content was relevant, especially in the areas of coffee input, production, post-harvest, and marketing. The coffee inputs information was relevant in soil testing, seedling purchase, and fertiliser use. The coffee postharvest information was relevant for coffee drying, processing, and value addition. The coffee marketing information was relevant for cooperatives, farmer groups, and coffee prices. Findings indicate that challenges related to a limited radio signal, short duration of agricultural programmes, limited sponsors for agricultural programmes, audience preference for other programmes, and presenters' lack of knowledge on coffee growing.

6.2 Conclusion

This current study employed the uses, gratification, and dependency theories as the framework for analysis of the contribution of radio-promoting coffee growing in Uganda. The framework enabled the researcher to understand how farmers in South Western Uganda actively seek out Radio West and use the *"Akazindaro k'omuhingi n`omuriisa"* programme to gratify their coffee information needs. From the content analysis, it was observed that the agricultural programme was composed of content related to all the stages of the coffee value chain. Such information was relevant to tackle constraints related to coffee inputs, production, postharvest handling, and marketing. The coffee farmers in South Western Uganda seek out Radio West and use the *"Akazindaro k'omuhingi n`omuriisa"* programme to gratify their coffee information needs related to coffee inputs, production, postharvest, and marketing. Coffee input information was relevant in soil testing, seedling purchase, and fertiliser use. Coffee input information was relevant in soil testing, seedling purchase, and fertiliser use. Coffee postharvest information was relevant for coffee drying, processing, and value addition. Coffee marketing information was relevant for cooperatives, farmer groups, and coffee prices.

The uses, gratification, and dependency framework make good conceptual sense in a study that attempts to understand the relevance of the programme content to coffee farmers and the challenges radio faces in promoting coffee growing. Other variables enter into the farmers' consumption behaviors of the radio station and the agricultural programme. Such variables include limited radio signal, short duration of agricultural programmes, limited sponsors for agricultural programmes, audience preference for other programmes, and presenters' lack of knowledge on coffee growing. However, in the process of using radio, farmers may develop certain dependencies that allow Radio West and the agricultural programme greater power than the uses and gratifications theory originally imagined. Therefore, the study argues that farmers depend on Radio West and the agricultural programme to gratify their information needs related to coffee growing and production. And such dependencies lead to increased knowledge and adoption of technologies relevant to coffee input, production, postharvest, and marketing.

6.3 Recommendations

Arising from the conclusions on what the radio has contributed to coffee growing and production in Uganda focusing on the *"Akazindaro k'omuhingi n`omuriisa"* (the microphone of a farmer and animal keeper) programme on Radio West, the study recommends that:

Recommendations to the Radio presenters and producers

Although Radio West has the potential to contribute to coffee growing through its *"Akazindaro k'omuhingi n`omuriisa"* programme, there is a need for management and other coffee stakeholders to unlock this potential by investing in agricultural programmes and building capacity of journalists on coffee growing and production. There is a need for management to change its policy and start investing in less sponsored agricultural programmes. Because such a policy marginalises efforts not just to balance its entertainment, information, and education role but also to promote agricultural programmes with limited sponsorship. There is also a need for development partners, and private and public extension service providers to work in collaboration with radio journalists to disseminate information on coffee growing and production. Such efforts should entail a range of activities including sponsoring agricultural programmes, training journalists, and working with farmers to meet their often evolving agricultural information needs.

The programme should be redesigned and well packaged; the process should be inclusive and involve multi-stakeholders, where communication specialists in the agriculture sector and radio together with agricultural experts and technocrats can sit together to design the content before it is broadcasted to the farmers. Also, the audience should be studied and assessed so that they share the formats they prefer, time, and the information they need which will help to shape the programme. While the programme is being designed, researchers, legislators, extension officers, the private sector, and farmers among others should be involved.

The programme should be more interactive. The only way of making it interactive is introducing more conducive feedback avenues, for example, live phone calls where the listener can call, ask a question and he or she is answered there and then by the guest/technical personnel, message lines for at least two telecommunication companies, social media especially Facebook, Twitter

among others. This further call for live programmes once in a while and not recorded ones all the time.

There should be a deliberate strategic plan by the media where sectors like agriculture are given enough attention and coverage. Every programme that goes on air should have a segment on agriculture. The presenter should make enough research on each topic so that the gap of limited information in this sector is bridged

Whilst the agricultural radio programme aired for only five minutes from Monday to Friday, the time for airplay was limited and was unfavorable for farmers. There is a need for the station to give the agricultural programme enough time and reschedule it from mid-day according to farmers' activities. Although languages vary and differ in the geographical area coved by the station, coffee farming systems and factors limiting production and productivity are essentially similar in central and South Western Uganda. Depending on the resources available, it is recommended that coffee growing and information should be disseminated by more than radio stations using local languages and the stations should broadcast similar content in different languages. For agricultural radio programmes to be more attractive there is a need to improve the programmes content, formats, and schedules that involve farmers throughout.

Recommendations to the Government

There should be a deliberate move by the management of media houses, MAAIF, Ministry of ICT & National Guidance and UCDA to organise work shows and training for all journalists this will help them to gain knowledge and skills in this sector; and equip them with the farmer skills necessary to bring closer extension officers and other stakeholders closer to the farmer. It is a measure of ensuring that only quality information is provided to the public.

On limited coverage of radio networks, it is recommended that there should be measures by the management of radio to procure powerful equipment that can broadcast in low and highlands. Uganda Communication Commission (UCC) should also push for tax waivers on radio equipment that broadcasts programmes of national importance, agriculture inclusive. This will improve and stabilise radio signals.

UCDA should provide both financial and human resource capital. The technical team of UCDA should actively and consistently participate in this programme and where necessary, the authority should also partner with the radio stations and pay for the airtime. In so doing they will be meeting more farmers on air than meeting one by one or in groups to offer extension services.

Recommendations to the Farmers

Farmers should listen to agriculture programmes on different radio stations. This would give them room for comparison on a particular aspect in case it happens to be discussed by the two different radio stations. This strategy will help them to come up with the best ideas and implement them on their farms thus realising more yields during the harvesting period.

Farmers need to also send in their feedback concerning the topic aired about farming on how these can be improved since they are the real beneficiaries of the agricultural information aired.

6.3 Areas of further research

Whilst the current study examined how radio has contributed to coffee growing, it was beyond the scope of this study to determine the crop and animal-specific information disseminated on the *"Akazindaro k'omuhingi n`omuriisa"* programme on Radio West. Future research that examines the content of agricultural radio programmes should provide an in-depth understanding of animal and crop-specific information disseminated in agricultural radio programmes.

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PERSONAL INTERVIEWS

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Mugira, F. (2020, June 5). Personal interview.

Mutireyo, W. (2020, June 6). Personal interview.

Natwebembera, A. (2020, June 5). Personal interview.

Niwamanya, D. (2020, June 5). Personal interview.

Tumuhimbise, G. (2020, June 5). Personal interview.

APPENDIX I: INFORMED CONSENT FORM

Dear Respondent,

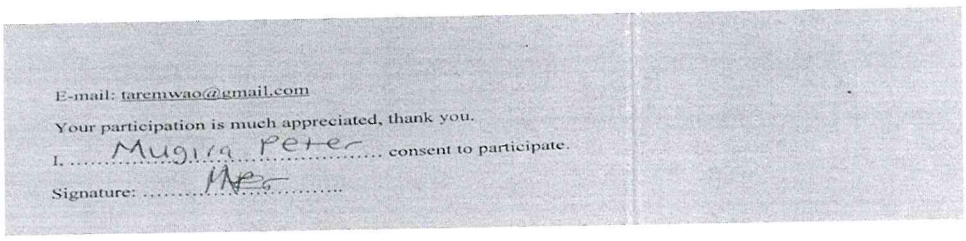
Taremwa Oliver is a student at Makerere University pursuing a Master of Arts in Journalism and Communication. This research process forms part of my Master's thesis titled: "An analysis of contribution of radio towards coffee growing and production: A case study of the "*Akazindaro k'omuhingi n`omuriisa"* programme on Radio West", at Makerere University. This study aims at investigating how radio has contributed to coffee growing and production in Uganda focusing on the "*Akazindaro k'omuhingi n`omuriisa"* (the microphone of a farmer and animal keeper) programme on Radio West.

Your participation in this research study will be through participating in an interview or being part of a focus group. These will be arranged to bring the most minimal disruption to your daily schedule. There is no material or financial benefits attached to participating in this research study and this is done on a volunteer basis.

The information obtained will be treated as confidential and will be safely stored at Makerere University.

Please be advised that you may choose to participate and you are free to withdraw from participating at any time.

Should you need further clarity on the matter explained above, or at any matter that is directly or indirectly associated with this research study, please contact me or my supervisor Dr. Fred Kakooza, Tel. no. 0756854520 or Oliver Taremwa (Student) on Tel.no.0779 129204


E-mail: taremwao@gmail.com

Your participation is much appreciated, thank you.

I, Mugira Peter consent to participate.

Signature: .....

APPENDIX 2: IN-DEPTH INTERVIEW GUIDE

Research topic: An analysis of radio's contribution to coffee growing and production: A case study of the "*akazindaro k'omuhingi n'omuriisa*" programme on Radio West.

Key objective: the main objective of the study is to investigate how radio has contributed to coffee growing and production in Uganda using a case study of the "*akazindaro k'omuhingi n'omuriisa*" programme

Guiding Questions for the Interviews

Questions for producer

1. What is the program about?
2. Why are you presenting this program?
3. What type of crops do farmers in your audience grow?
4. What type of content is emphasised in your program?
5. In your program, do you have special days for coffee growing and production? If yes, how many days?
6. Do you have a credible central source of information for coffee growing and producton? If yes, which one? If no, mention some of the sources where you get information for your prgoram.
7. Which incentives and resources do you have to run this program?
8. Do you have knowledge about coffee growing and production?
9. What challenges do you face while produciing this program?
10. What in your view can be done to improves the coverage of coffee growing and production?

Questions for presenters

1. What is the program about?
2. What is the format of the "akazindaro k'omuhingi n'omuriisa" programme?
3. What type of content is emphasised in the program?
4. Do you have reach out program?

5. Do you thing the program is helping farmers? In what ways?
6. How do you gauge this?
7. Where do you get information about coffee growing and production from?
8. Is your presenter knowledgeable about coffee growing and production? Do you have training or has your presented ever trained with the concerned parties?
9. Is the program sponsored? If yes, by who?
10. What challenges do you face while producing this program?
11. What in your view can be done to improve the coverage of coffee growing and production?

Questions for in officials

1. How do you find coffee growing and production in Uganda?
2. Have you ever been hosted in any program on radio to talk about coffee growing and production? If yes do your think it was informative?
3. What challenges do you see radios facing while covering coffee growing and production?
4. What else do you think is responsible for the lack of information and knowledge about coffee growing and production?
5. In your opinion, what makes it significant and effective?
6. What has your office failed to do? And why?
7. How can the media use your knowledge and expertise to improve the content?
8. Any other issues?

APPENDIX IV: CONTENT ANALYSIS CODE SHEET

In order to analyze and track the content of *''Akazindaro k'omuhingi n`omuriisa''* Programme on Radio West, the researcher used the calendar to capture all the 62 plant and animal content aired and date . Below is what aired on each day for three months.

''AKAZINDARO K'OMUHINGI N`OMURIISA'' **PROGRAMME ANALYSIS** -January, February and March 2020

JANUARY 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30 -	31 -	1 -	2 -	3 -	4
5	6 cattle	7 cattle	8 Cattle	9 Cattle	10 cattle	11
12	13 banana	14 banana	15 banana	16 Banana	17 banana	18
19	20 banana	21 banana	22 sugarcane	23 Piggery	24 piggery	25
26	27 coffee	28 coffee	29 coffee	30 Coffee	31 coffee	1

FEBRUARY 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	31	1
2	3 banana	4 cattle	5 banana	6 Coffee	7 banana	8
9	10 banana	11 Tea	12 tea	13 Cattle	14 cattle	15
16	17 coffee	18 banana	19 banana	20 Coffee	21 cattle	22
23	24 coffee	25 coffee	26 coffee	27 Coffee	28 banana	29

APPENDIX V; CONTENT ANALYSIS CODE SHEET

In order to analyze and track content on coffee growing and production, a coding sheet was used. Below is a sample of how the coding sheet looked like.

Coffee growing and production content ANALYSIS FRAME for January, February and March 2020

A.Month	Date	Topic	Sub- topic
January 2020			
February 2020			
March 2020			

B. Month	Date	Guest	District	Occupation	Presemter
January 2020					

February 2020					
March 2020					