A STUDY OF RADIO FARM FORUM AS A COMMUNICATION STRATEGY IN AGRICULTURAL EXTENSION—THE CASE OF SOLWEZI DISTRICT

By

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THE UNIVERSITY OF ZAMBIA

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DECLARATION

I declare that this report has not been previously presented to this or any other University.

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ABSTRACT

In Zambia, the delivery of extension services by the main extension service providers in the government ministry has been declining over the years. New dissemination methods and approaches that address the needs of the poor and women, therefore, need to be identified and promoted. One of the wished-for ways of complementing conventional extension services is the Radio Farm Forum listening groups, but little is known on how effective and functional these forums have been to the present time. The success of forums depend on how the farmers participate and make use of the information obtained from the radio, effectiveness of the messages broadcast to influence positive adoption among the farming community, and government support in this direction.

The purpose of this study was to establish the degree to which RFFs as a strategy in agriculture extension has been beneficial to the farmers in Solwezi district in North Western Province of Zambia. It also sought to identify the clients’ media perception, attitude and usefulness towards participative communication. Specifically, the study focused on identifying and assessing the farmers’ personal characteristics, media perception and extension institutional factors that influence Radio Farm Forum as a communication strategy in agricultural extension.

A questionnaire was administered to 120 peasant farmers, selected by using the multi-stage sampling method from eight blocks of the district. Besides, the researcher held focused group discussions in each of the camps included in the study. In-depth discussions were also held with staff at both the district and provincial offices in the Ministry of Agriculture and Co-operatives. The Statistical Package for the Social Sciences (SPSS) was used to analyse the data.

The objectives of the study were to: (a) investigate the form and content of agricultural radio communication messages farmers were most interested in; (b) assess whether farmers realised the importance of listening to agricultural programmes disseminated on radio; (c) identify barriers hindering effective listening to agricultural programmes and get farmers’ suggestions for solving the existing problems; (d) assess farmers’ listening frequency to agricultural programmes disseminated on radio; and (e) find out on what the farmers used the knowledge they gained from the radio for.

The findings in this study revealed that the majority of the farmers had no contact with their extension officers to discuss issues related to the Radio Farm Forum. They testified that they gain much of their agricultural knowledge from radio broadcasts, but are affected by poor radio reception. It also came out that the subjects they preferred most during the radio broadcast were crop production followed by cooperative subjects and to a lesser extent the livestock production lessons.

Information derived from this study is expected to provide some insights into how Radio Farm Forum groups can be improved, and how it can be used to increase the diffusion and adoption of agricultural innovations in Solwezi and Zambia as a whole.
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<td>BEO</td>
<td>Block Extension Officer</td>
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<tr>
<td>CEO</td>
<td>Camp Extension Officer</td>
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<td>DACO</td>
<td>District Agricultural Co-ordinator</td>
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<td>FAO</td>
<td>Food and Agricultural Organisation</td>
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<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>IFAD</td>
<td>International Fund for Agricultural Development</td>
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<td>MACO</td>
<td>Ministry of Agriculture and Co-operatives</td>
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<td>MMD</td>
<td>Movement for Multiparty Democracy</td>
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<td>NAIS</td>
<td>National Agricultural Information Services</td>
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<td>NCSR</td>
<td>National Council for Scientific Research</td>
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<td>NGO</td>
<td>Non Governmental Organisation</td>
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<td>NWPADP</td>
<td>North Western Province Agricultural Development Project</td>
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<td>NWPIRDP</td>
<td>North Western Province Integrated Rural Development Project</td>
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<td>NWP</td>
<td>North Western Province</td>
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<tr>
<td>PACO</td>
<td>Provincial Agricultural Co-ordinator.</td>
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<td>PAZA</td>
<td>Press Association of Zambia</td>
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<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
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<td>RFFG</td>
<td>Radio Farm Forum Groups</td>
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<td>VEG</td>
<td>Village Extension Group</td>
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<td>TOZ</td>
<td><em>Times of Zambia</em></td>
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<td>UNESCO</td>
<td>United National Educational Scientific and Cultural Organisation</td>
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CHAPTER 1:
INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

Many people in Africa remain voiceless, despite a multitude of new information outlets. Most media remain largely state-controlled but the tide of democracy sweeping the continent has seen governments loosening their grip on the airwaves. This study will focus on Radio Farm Forums (RFF) as a strategy in communication extension in the field of agricultural development. According to Muyagawa (2002) RFF programme was produced by the National Agricultural Information Services (NAIS) in the 1960s as a means of improving communication between the Ministry of Agricultural and the agricultural service staff. Muyagawa further states that the motivation for strengthening this communication link and attempting effectively disseminate agricultural information to a large and dispersed population of rural farmers was to increase agricultural productivity and thereby create a form of sustainable economic development for Zambia.

In the 1960s, officials in Zambia realised that they could not depend on copper exports as Zambia’s economic mainstay forever and they aimed at increasing productivity in agriculture to create a form of sustainable economic development. The main problem in achieving this goal was how to disseminate agricultural knowledge across Zambia, specifically to the widely dispersed peasant farmer population (Bobbili et al, 1997).

At this time, information dissemination was primarily done through agricultural extension officers. These officers personally visited communities and advised them on various agricultural topics. There were also transportation difficulties, inadequate funding, and shortage of agricultural extension staff. Therefore, this practice was not yielding successful results and proved to be largely ineffective and non-scalable.

The solution to this problem was the introduction of RFF, which included two main components: (a) broadcasting a 30 minutes radio discussion programme on agricultural problems and techniques; and (b) radio listening groups that would discuss the points and
problems mentioned in the program and their solutions. Then in turn, implement the various techniques within their local communities, and communicate all the information back to the Ministry of Agriculture.

1.1.1 AGRICULTURAL POLICY AND VISION
The overall policy of the Ministry of Agricultural and Co-operatives is to facilitate and support the development of a sustainable and competitive agricultural sector that assures food security at national and household levels and maximises the sector's contribution to Gross Domestic Product (GDP). The vision is to promote development of an efficient, competitive and sustainable agricultural sector, which assures food security and increased income. It recognises the need to strengthen and expand the emerging opportunities and also deal with the challenges facing the agricultural sector. This vision also strives to contribute to the overall poverty reduction and economic growth. (MACO, 2004)

1.1.2 INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)
Often the companies that implement any form of ICT in Zambia are those that are owned and administered by foreigners. Although ICT has some prevalence in large corporations within Zambia, it never affects the local people because ex-patriots use it in entirety. However, one case of exception is the Radio Farm Forum, a government-initiated ICT project to enable rural farmers to communicate effectively with the Ministry of Agriculture and Co-operatives in addressing the common needs and problems of rural farmers. According to Miyagawa and Manish (2003) the motivation for strengthening communication links and attempting effectively to disseminate agricultural information to a large and dispersed population of rural farmers is to increase agricultural productivity and thereby create a form of sustainable economic development for Zambia.

According to Suzuki et al (2002:2) the need for improving efficiency and effective extension system within the present framework is a big challenge. The recent adoption of the participatory approach as an alternative way of extension could be seen as one attempt to address the challenge. (Ashworth, 1999). Therefore, the use of Radio Farm Forum could be revisited as a means of supplementing the current extension system. This
is because mass media extension is not fully exploited in Zambia despite its high potential as a cost-effective means of rapidly diffusing a wide range of up-to-date information and innovations to rural communities.

From time immemorial, rural people all over the world got together frequently at common meeting places, discussed questions related to either individuals or the whole community, and took decisions. This displays the importance of indigenous knowledge. For instance, in Zambia, the ‘Insaka’ in the Bemba language and the Kutas in the Barotse province and ‘Zango or Zang’u in Luvale and Lunda’ of North Western province used to be the most popular meeting place. Although, the concept of Radio Farm Forum evolved from experiences in agricultural extension work in Canada and later was sponsored by Food and Agricultural Organisation in countries of Asia and Africa, it has similar line of approach.

1.1.3 AGRICULTURAL EXTENSION AND INFORMATION SERVICE

The agricultural extension service sector in the Ministry of Agricultural and Cooperatives is directly involved in the dissemination and diffusion of agricultural information and innovations to farmers. The development of agricultural sector, therefore, is dependent on the organisation, functioning, effectiveness, and efficiency of extension service branch of the ministry. The effectiveness of the extension branch is directly related to the communication strategies developed to bring about social transformation and social change.

Suzuki et al (2002) stated that Zambia has quite a long experience in agricultural information delivery services through the use of mass media such as radio/television broadcasts and printed material including newspapers. Broadcasting services of agricultural radio programmes targeting local small-scale farmers was initiated as early as the mid 1960s with assistance from UNESCO. A number of listening groups called “Radio Farm Forum Groups” were set up in rural communities all over the country. The farmers were encouraged to listen to radio programmes through the present National Agricultural Information Services (NAIS) under the Ministry of Agriculture and Co-
operatives. NAIS has also been engaged in producing agricultural television programmes, publishing magazines, newsletters and posters to provide farming communities as well as stakeholders with various kinds of agricultural information. However, direct assistance of government to the listening farmer groups, such as free provision of radio sets and batteries, was largely withdrawn.

1.1.4 IMPACT REVIEW
A UNESCO Mission on agricultural broadcasting conducted a survey in Zambia to assess the existing broadcasting facilities and determine the adult educational needs with rural communities. The mission recommended the "Radio Farm Forum" as a means of improving communication between the Ministry of Agriculture and the agricultural extension staff. Since then without the help of the government, the programmes would not have had sufficient funding for its continuation.

According to Ngangula (1990) Radio Farm Forums (RFF-totally 1440 in Zambia) have had a significant positive impact on the lives of farmers in rural communities in Zambia. Through RFF, farmers have been taught how to change and improve their agricultural practices, including how to survive through droughts, prevent their soil from eroding, and constructing more durable storage barns. RFF is able to provide and acquire accurate and relevant technical information because of its close relationship with educational and research institutions such as the Zambia Colleges of Agriculture and the National Council for Scientific Research (NCSR). One of the programme greatest assets is its use of radios, which has overcome obstacles of distance, literacy, and other factors affecting large-scale information dissemination.

1.1.5 BRIEF MEDIA PROFILE AND HISTORY
All forms of media are shaped by political, economic, educational, and social conditions, but the media can help shape things as well. For example, when former President Chiluba and the MMD in 1991 trounced the ruling party and ousted Kaunda (the only leader Zambians had known in their first 27 years of independence) they opened up the political process. One of the factors, a relatively new one that helped defeat Kaunda and UNIP
was the emergence of privately-owned and relatively independent newspapers. The new media voices became partners with those forces that were struggling for democracy in Zambia (Kasoma, 1997)

The Zambia News and Information Service (ZANIS) formerly known as Zambia News Agency (ZANA) is the main provider of domestic news. It gathers and distributes news and information to the country's media and works with the Pan African News Agency (PANA), which collects and re-distributes news from other African countries (Ibid.).

In 2002 there were four newspapers in Zambia: the state-owned Zambia Daily Mail and the Times of Zambia; The Post, which is independent; and the UNIP-owned Sunday Times of Zambia. All are published in English and have circulations in the 25,000 to 50,000 range. Each paper also has taken advantage of technology by also publishing online edition (Ibid.)

(a) The Zambia Daily Mail
The Zambia Daily Mail started its life in 1960, when it was called the African Mail. In 1962 its name was changed to Central African Mail. This weekly paper was popular among blacks in the early 1960s because it was not afraid to publish stories that were critical of the federal government, the colonial government and authorities in Northern and Southern Rhodesia. The paper was co-owned by David Astor, then editor of the Sunday Observer in London and Alexander Scott, a former Scottish doctor. In 1965 the new UNIP government bought the Central African Mail. Two years later, it had become a semi-weekly called the Zambia Mail. In 1970 the Zambia Mail became the Zambia Daily Mail, a state-owned daily. Its main rival was the Zambian Times, founded in 1962 by a South African named Hans Heinrich (Merrill, 1991).

(b) The Zambian Times
The Zambian Times started its life in Kitwe, one of the country's mining centres. Hans Heinrich, however, soon sold the paper to a British firm called London and Rhodesia Mining, which owned other newspapers in the region. Meanwhile, the Argus Company,
another owner of newspapers in Central and Southern Africa started the Northern News in Ndola. This newspaper was aimed at the white community and it included foreign news from Britain (Ibid.).

When Argus chose to leave Zambia to concentrate on its South African business interests, it sold the Northern Times to Lonrho, which shut down the Zambian Times and renamed its new property the Daily Times of Zambia. A white Rhodesian civil servant Richard Hall became editor of the Times of Zambia. Richard Hall trained African editors and reporters to take over from him. In 1975, Kaunda's government took over the Times of Zambia and relocated its offices from Ndola to Lusaka, the national capital (Ibid.).

In addition to the Zambia Daily Mail and the Times of Zambia, other newspapers emerged. The Weekly Post became popular among those who disagreed with the Chiluba government. It regularly attacked the government, made fun of its leaders and scrutinised its actions. It started doing to Chiluba and the MMD what Kaunda and UNIP had done to the MMD in the days before multi-party politics became a major political player. But the Weekly Post was not the only paper critical of the new government (Kasoma, 1997).

(c) Broadcasting in Zambia

ZNBC became a state-run institution that tended to report news only from the government's and ruling party's perspective. Opposition views were absent from ZNBC radio and television news. Kaunda and the ruling party saw the broadcast media as handmaidens of the government and UNIP to propagate and spread, uncritically, pro-government views and policies. In the Kaunda view (which was shared by many African leaders) opposition parties were enemies whose views should never be published or spread by the media.

The MMD took a different stance by promising to restore and respect press freedom. The MMD promised to let journalists do their work without interference, and that those with the means would be able to own print and electronic media outlets. Those interested in starting private radio and television outlets were encouraged to apply for licenses. A
Media Reform Committee was even established to chart the way forward. Among the Committee's recommendations were privatising the Zambia National Broadcasting Corporation, privatising newspapers and putting a freedom of the press clause in the Zambian constitution. The print media took advantage of the new freedoms. They criticised the new government and its president, made efforts to be a public watchdog, and tried to hold the government accountable for its actions. There were virtually no restrictions about what the media could not do or publish—a far cry from the autocratic Kaunda days. The exception was MMD continuing grip of ZNBC although the government had accepted to have a ZNBC Amendment Act. This act was meant to free the corporation from government control to use the station as its mouthpiece right through to the end of the Chiluba's term as President and beyond.

According to Suzuki (2002) the coverage area of ZNBC radio broadcasts substantially increased after the Radio Transmitter Project was commissioned in 1996. New Short Wave transmitters were installed at the major administrative centres in the country. Consequently broadcasts on Radio One and Two can be received in almost all parts of the country. Besides, ZNBC installed 14 FM transmitters at seven stations in July 2000 with assistance from the Chinese Government. This has considerably expanded the coverage area of FM transmission.

1.2.0 AN OVERVIEW OF ZAMBIA

1.2.1 LOCAL AND CONTINENTAL PROFILE OF ZAMBIA

Zambia is one of the fifty-three African continent states and formerly known as Northern Rhodesia, and is a Central African country lying between latitudes 8° North and 18° South and longitudes 22° West and 32° East. Shaped like a kidney bean, Zambia covers an area of 752,614 square kilometres, covering 2.5% of the African continent total area (Bunyaolo, 1995).

Among the nine provinces, Northern Province has the largest area of 147, 826 square kilometres, while Lusaka has the smallest with 21,896 square kilometres. The country is landlocked, sharing boundaries with Malawi and Mozambique in the East, Tanzania in the North, Angola and Democratic Republic of Congo (former Zaire) in the West and
Zimbabwe, Botswana and Namibia in the South. The greater part of Zambia forms a plateau lying between 900 to 1500 metres above sea level. (Kasoma, 1986).

Zambia has a total of 5,664 kilometres of border distance with other countries broken down as follows: Angola 1,110 km, Democratic Republic of the Congo 1,930 km, Malawi 837 km, Mozambique 419 km, Namibia 233 km, Tanzania 338 km, Zimbabwe 797 km. Zambia has no coastline and no maritime claims, apart from the little shipping that goes on in lake Tanganyika.

According to Kasoma (1990) Zambia is a highly urbanised country by African standards. The capital city of Zambia is Lusaka and has three other cities such as Kitwe, Ndola and Livingstone. Zambia derives its name from the Zambezi River, which rises in the North West corner of the country (Mwinilunga district) and forms its southern boundary. Zambia's 752, 614 square kilometres makes it a large country about the size of France, the Netherlands, Belgium and Switzerland combined.

Zambia has the following natural resources copper, cobalt, zinc, lead, coal, emeralds, gold, silver, uranium, hydropower, and timber. Wolstenholme (1965) averts that just like agriculture, mineral production can be traced back to the early years of history. Suitable rock minerals helped to arm our ancestors just as they do today. Africa is truly a treasure house of mineral resources. Wolstenholme further supports that there can be little doubt that mineral production will continue to provide most of the developing countries with much of the income they need to raise their general standards of living and improve the daily life of their people.

Administratively, Zambia is divided into nine (9) provinces each with a provincial headquarters; namely Central (Kabwe), Copperbelt (Ndola), Eastern (Chipata), Luapula (Mansa), Lusaka (Lusaka), Northern (Kasama), North Western (Solwezi), Southern (Livingstone), and Western (Mongu) provinces.
Map 2: Map of Zambia showing the main settlements, boundaries and routes.

This region receives between 800mm to 1000mm of annual rainfall and constitutes 42 percent of the country. It is sub divided into two, namely Region IIa and IIIb. Region IIa covers the Central, Lusaka, Southern and Eastern fertile plains of the country and generally contain mineral fertile soils. Typically settled systems of agriculture are

10
1.2.2 AGRO-ECOLOGICAL REGIONS

The country is divided into three major agro-ecological regions; namely regions I, II and III as shown in figure 1 below. Rainfall and quality of soils differ across the regions.

![Figure 1: Agro-ecological zones](image)

**REGION I**

The region receives less than 800 mm of rainfall annually and constitutes 12 percent of Zambia’s total land area. It consists of loamy to clayey soils on the valley floor and course to fine loam shallow soils on the escarpment. It covers the Southern province and parts of Eastern and Western provinces. The region is suitable for production of drought resistant crops like cotton, sesame, sorghum, and millet and has potential for production of irrigated crops like winter maize. This region is also suitable for extensive cattle production and has limited potential for cassava cultivation. The valley of the region is on a low attitude and is consequently hot and humid: these areas are not suitable for cattle rearing because of Tsetse flies. (Muliokela, 1995).

**REGION II**

This region receives between 800mm to 1000mm of annual rainfall and constitutes 42 percent of the country. It is sub divided into two; namely Region IIA and IIB. Region IIA covers the Central, Lusaka, Southern and Eastern fertile plateau of the country and generally contain inherent fertile soils. Permanent settled systems of agriculture are
practiced. A variety of crops are grown in this region and these include maize, cotton, tobacco, sunflower, soyabean, irrigated wheat, groundnuts and other arable crops.

The area is also highly suitable for flowers, paprika and vegetable production. Region IIb covers Western Province and consists of sandy soils. It is suitable for production of cashew nut, rice, cassava, and millet including vegetable and timber production. The region is also highly suitable for beef, dairy and poultry production. (Mulikokela, 1995)

REGION III
The region receives more than 1000 mm of rainfall annually and constitutes 46 percent of the country’s total land area comprising the Copperbelt, Luapula, Northern and North Western provinces. With the exception of the Copperbelt, the zone is characterized by highly leached acidic soils. It has good potential for the production of millet, cassava, sorghum, beans, and groundnuts, coffee, sugarcane, rice and pineapples. The agricultural potential of the region can be enhanced by application of lime and its perennial streams can be utilised for small-scale irrigation. Increased exploitation of the fisheries resources and introduction of fish farming can offer good opportunities for development (Mulikokela, 1995).

1.2.3 AGRICULTURAL DEVELOPMENTS IN ZAMBIA: Historical Perspective
(i) THE PRE-COLONIAL PERIOD

Prior to the arrival of the missionaries, and the influence of colonisation, agriculture systems had evolved over centuries on gradual adaptation to the environment. Population densities were relatively low ranging from 3 people per square kilometre in Northern Zambia to 8 people per square kilometre in Eastern Province and up to 40 people per square kilometre on the plateau of Central and Southern Provinces. The leached soils of Northern Province imposed a low limit on the carrying capacity of the land and a system of shifting cultivation supplemented with hunting, predominated. On the plateau areas the soils sustained a settlement pattern. (MACO, 1991).
(ii) THE COLONIAL PERIOD

The pattern of agriculture, during the colonial era from early 1900s was strongly influenced by the discovery of copper and the industrialisation of the Copperbelt. Crown land along the line of rail was designated and reserved for settlement by European farmers who were encouraged to pioneer commercial farming to feed the expanding urban labour force with maize and beef.

This period was also characterised by the migration of able bodied men to the mining area. The elderly who remained behind tended to utilise cleared plots for longer periods since clearing work was the task of the younger men. This in certain areas predisposed the sedentary population to malnutrition and the land to erosion and declining fertility. Cattle populations were restricted to a limited number of tribes mainly in Southern, Eastern and Western Provinces. The incorporation of kraal manure with the exception of Western Province was generally practiced.

Between 1920 and 1940, the main issues that concerned government were:

1. Excess settlement and overgrazing in some native reserve areas.
2. The compression of slash and burn systems in Northern Province due to urban migration of the able bodied.
3. The need to evolve plateau farmers in the cash economy to supplement commercial production of maize and beef for the labour force employed on the mines.
4. The need to improve the performance of some cash crops through research.

The more significant initiatives taken by the government to address these issues during the period included:

1. The establishment of the Department of Agriculture.
2. The introduction of compulsory conservation measures in the plateau areas that required contour ridging by plough or hoe.
3. Employed agricultural messengers to enforce the use of conservation farming measures and also encourage farmers to incorporate kraal manure in their fields.
4. The legislation of the “African Improvement Fund Act” which provided for a levy on the African maize sales in Southern Province and the line of rail to promote
ox-cultivation; provide storage and marketing facilities; construct wells and dams; and provide ox-carts and subsidised farm inputs.

5. Various pilot schemes were enacted under legislation to encourage what were considered sound farming systems;

6. In the Northern Province, the “Areas under Chitemene Control Act” was introduced covering 235 villages in an attempt to stabilise farming systems;

7. In Southern Province the “Improved African Farmers Scheme” registered progressive farmers who were regularly visited by Agricultural Inspectors. They were entitled to a maize marketing bonus and encouraged to use fertilizer;

8. A number of Research Stations were established to improve the crops grown primarily by commercial farmers; and

9. Cattle owners were encouraged to sell animals, and various Livestock Schemes were introduced involving loans for improved animals and demonstrations of improved husbandry and veterinary practices.

Generally, these efforts were partially successful. Restrictions on chitemene and compulsory soil conservation measures were resisted. The levy on maize sales did not apply to commercial farmers and so it was resented by African traditional farmers. Equally not accepted were improved husbandry and veterinary practices largely because within African society, cattle were not considered of commercial value.

(iii) THE COLONIAL EXTENSION SERVICES

The extension structure provided provincial and district agricultural offices with agricultural supervisors, agricultural assistants and village demonstrators’ who were concentrated in the intensive and semi-intensive areas. After the establishment of the Federation of Rhodesia and Nyasaland in 1953, African agriculture fell under the Territorial Government (Ministry of African Agriculture) while European Agriculture which incorporated research was retained under the Federal Government headquarters in Southern Rhodesia. From this period until independence, African agriculture lost attention which had been provided through its associations with European Agricultural Affairs. After the dissolution of the Federation in 1963, a UN/FAO mission established
the broad framework for an integrated development plan. The mission recommended that there should be increasingly widespread adoption of modern technology in all divisions of the agricultural sector through resettlement, provision of credit, improved marketing facilities, generalised extension and the participation of local authorities.

(iv) **POST-COLONIAL ERA**

At independence the Department of Agriculture undertook responsibility for extension and research at national basis. The colonial government inherited a sharply dualistic agricultural sector with large scale and medium scale farmers accounting for 40 percent of official maize sales and over 90 percent of official sales of tobacco, wheat, milk and pigs, from about 20 percent of the total cropped area. The BSA Company created a typically colonial dual economy comprising of relatively developed sector under European control and underdeveloped rural sector whose role was to provide labour, and to bear most of its social costs.

The smallholder non-subsistence sector accounted for 60 percent of maize sales and over 90 percent of sunflower, rice, cotton and groundnuts sales. Some 600,000 farming families cultivating subsistence crops under traditional tenure systems did not participate in the market economy. The First and Second National Development attempted to redress this imbalance and diversify the economy from excessive reliance on copper. Initiatives included the establishment of a national co-operative movement with support to producer co-operatives for land clearing and tractor purchases scheme, and establishment of management settlement schemes on state and co-operative ranches and dairy farms utilising mechanised technology.

During the Second National Development Plan, emphasis was diverted to setting provincial priorities and providing a range of services and incentives to family farmers. The Third National Development Plan launched in 1979 focused on the rural sector with particular emphasis on small holder and subsistence farmers. The Fourth National Development Plan put further emphasis on the small scale farmers by deliberately
endorsing policies that aimed at among others, developing and disseminating the appropriate technological packages.

(v) AGRICULTURAL RADIO PROGRAMMES SCHEDULE ON ZNBC

The agricultural technical information prepared for dissemination to the farming community are recorded from the target clients or generated by the programme managers. NAIS disseminates agricultural information to the masses via Zambia National Broadcasting Corporation (ZNBC). The Ministry of Agriculture and Co-operatives pays for the air time and broadcasts are done on scheduled time. Table 2 shows the times.

Table 1: Local/English language and programmes aired on ZNBC Radio 1

<table>
<thead>
<tr>
<th>Programme Name</th>
<th>Language</th>
<th>Day</th>
<th>Time</th>
<th>Length</th>
<th>Producing Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio Farm Forum</td>
<td>Nyanja</td>
<td>Monday</td>
<td>13.30-14.00</td>
<td>30 Minutes</td>
<td>National Agricultural Information Services (NAIS)</td>
</tr>
<tr>
<td></td>
<td>Bemba</td>
<td>Monday</td>
<td>15.30-16.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tonga</td>
<td>Wednesday</td>
<td>16.30-17.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lozi</td>
<td>Tuesday</td>
<td>16.30-17.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kaonde</td>
<td>Monday</td>
<td>16.30-17.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lunda</td>
<td>Thursday</td>
<td>16.30-17.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Luvale</td>
<td>Tuesday</td>
<td>10.30-11.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmers Note Book</td>
<td>Nyanja</td>
<td>Thursday</td>
<td>20.15-20.30</td>
<td>15 Minutes</td>
<td>NAIS</td>
</tr>
<tr>
<td></td>
<td>Bemba</td>
<td>Sunday</td>
<td>08.15-08.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tonga</td>
<td>Saturday</td>
<td>20.15-20.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lozi</td>
<td>Friday</td>
<td>17.00-17.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kaonde</td>
<td>Tuesday</td>
<td>20.15-20.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lunda</td>
<td>Wednesday</td>
<td>19.45-20.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Luvale</td>
<td>Saturday</td>
<td>19.00-19.15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 above is showing a schedule followed on ZNBC in broadcasting the programmes for the benefit of the farming community in the seven languages aired on ZNBC. NAIS
also increases its outreach by using ZNBC Radio 2 and 3 frequencies in disseminating agricultural farming information in the official language (English) as shown in table 3 below.

**Table 2: ZNBC Radio Network**

<table>
<thead>
<tr>
<th>Radio Station</th>
<th>Language of transmission</th>
<th>Band</th>
<th>Frequencies currently in use</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZNBC Radio 1</td>
<td>Local languages (Bemba, Nyanja, Tonga, Lozi, Lunda, Luvale, Kaonde)</td>
<td>SW VHF (FM)</td>
<td>Whole country (6,265 KHz) Lusaka (102.6 MHz); Kabwe/Kapiri (97.8 MHz); Kitwe (98.7 MHz); Chipata (93.1 MHz); Mansa (88.6 MHz); Kasama (88.2 MHz); Solwezi (95.1 MHz); Mongu (95.1 MHz)</td>
</tr>
<tr>
<td>ZNBC Radio 2</td>
<td>English</td>
<td>SW VHF (FM)</td>
<td>Whole country (6,165 KHz) Morning/Evening Lusaka (95.8 MHz); Kabwe/Kapiri (88.2 MHz); Kitwe (95.4 MHz); Chipata (96.3 MHz); Mansa (91.7 MHz); Kasama (92.3 MHz); Solwezi (91.6 MHz); Mongu (91.9 MHz).</td>
</tr>
<tr>
<td>ZNBC Radio 4</td>
<td>English</td>
<td>VHF (FM)</td>
<td>Lusaka (88.2 MHz); Kabwe/Kapiri (92.2 MHz); Kitwe (92.2 MHz); Livingstone (95.5 KHz), Ndola (94.5 MHz)</td>
</tr>
</tbody>
</table>

Of the three broadcasting channels on ZNBC in table 3, only Radio 1 and 2 cover countrywide while Radio 4 is confined to some parts of the country, especially along the line of rail.

**Table 3: English agricultural programmes aired on ZNBC Radio 2 (FM/SW)**

<table>
<thead>
<tr>
<th>Programme</th>
<th>Day</th>
<th>Time</th>
<th>Length</th>
<th>Producing Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural Notebook</td>
<td>Mon- Saturday</td>
<td>06.45-07.00</td>
<td>10 Minutes</td>
<td>NAIS</td>
</tr>
<tr>
<td>Farm Magazine</td>
<td>Sunday</td>
<td>09.00-09.15</td>
<td>15 Minutes</td>
<td>NAIS</td>
</tr>
<tr>
<td>Voice of the Farmer</td>
<td>Saturday</td>
<td>13.00-13.30</td>
<td>30 Minutes</td>
<td>ZNFU</td>
</tr>
<tr>
<td></td>
<td>Tuesday</td>
<td>06.05-06.35</td>
<td>30 Minutes</td>
<td></td>
</tr>
</tbody>
</table>
Table 4: ZNBC Radio frequencies

<table>
<thead>
<tr>
<th>Channel</th>
<th>Time of transmission</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio 1</td>
<td>05.00-07.30</td>
<td>4910 KHz</td>
</tr>
<tr>
<td></td>
<td>07.30-17.30</td>
<td>5915 KHz</td>
</tr>
<tr>
<td></td>
<td>07.30-17.30</td>
<td>4910 KHz</td>
</tr>
<tr>
<td>Radio 2</td>
<td>04.30-24.00</td>
<td>6165 KHz</td>
</tr>
</tbody>
</table>

1.2.4 POLITICAL

Provinces are run by political leaders who are appointed by the Republican President as Provincial Ministers. According to Davies (1971) Zambia widely recognised that there are social and political and economic components of development. Major social problems include the processes and consequences of transforming the rural population from semi-subistence to commercial way of life. It also includes combating the powerful drift of rural folk into shanty settlements around the major towns.

Zambia has had a lot of outside influence from either the socialist and capitalist ideals. The colonial influence on Zambia’s people and its environment left a lot of gaps in its geographical resources development. Up to 1952, Northern Rhodesia (now Zambia) had a British protectorate status and was regarded as an annex to Southern Rhodesia. This was a colony that attracted European settlement. Little settler agriculture or industry developed in Northern Rhodesia with the exception of copper mining on the famous Copperbelt close to the Zairian border. Southern Rhodesia proved more attractive to investors. Zambia’s rural areas became suppliers of labour to the Copperbelt, Rand mines as well as to Southern farms and factories. Surplus maize production from the native population was actually taxed in the 1950s.

According to Kelly (1999) the pre-independence history of Zambia’s economy can be divided into three phases. These are (a) the pre-colonial subsistence farming; (b) the period of consolidation of the extraction of labour; and (c) the penetration of settler farming and the establishment of an indigenous copper industry. Therefore, the
geographical position of Zambia and its mineral wealth that attracted the outside people to intervene in a lot of the country’s stability and resource base utility.

Zambia became independent in 1964 and eight years later, a one party state was established. The first parliament had three parties but UNIP dominated and the reign of humanism was embarked upon. Businesses including the mines were nationalized; price controls were introduced and parastatal companies sprang up like mushrooms. State farms run on military lines were established throughout the country’s exchange rates and interest rates were set at levels that grossly overvalued the currency.

1.2.5 POPULATION

The population of Zambia is 10.3 million (2001) with a growth rate of 3.5 per cent per year. The estimated population of Zambia in 2006 is 11,502,000 (Encyclopedia, 2005). Further, the estimated population below poverty line is 86 percent and unemployment rate of 50 percent exists. The population in each of the province greatly differs in terms of numbers and population density. Below is a comparative population of Zambia for years 1990 and 2000.

<table>
<thead>
<tr>
<th>Province</th>
<th>1990</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Central</td>
<td>385,230</td>
<td>386,588</td>
</tr>
<tr>
<td>Copperbelt</td>
<td>739,519</td>
<td>718,940</td>
</tr>
<tr>
<td>Eastern</td>
<td>492,909</td>
<td>511,784</td>
</tr>
<tr>
<td>Luapula</td>
<td>278,222</td>
<td>286,271</td>
</tr>
<tr>
<td>Lusaka</td>
<td>498,704</td>
<td>492,522</td>
</tr>
<tr>
<td>Northern</td>
<td>456,865</td>
<td>469,000</td>
</tr>
<tr>
<td>N/Western</td>
<td>212,826</td>
<td>225,390</td>
</tr>
<tr>
<td>Southern</td>
<td>474,488</td>
<td>491,103</td>
</tr>
<tr>
<td>Western</td>
<td>302,813</td>
<td>335,943</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,841,576</strong></td>
<td><strong>3,917,541</strong></td>
</tr>
</tbody>
</table>

The above data depict that in 1990 Copperbelt province (second Eastern and Lusaka) had the highest number of people. In 2000 Copperbelt province still ranked first with Lusaka and Eastern running second and third respectively. On the other hand, North Western province ranked last in population in both census results of 1990 and 2000. The opening of the Kasanshi and Lumwana mines may change the scenario by 2010 in both Copperbelt and North Western Provinces as there is the reverse in the movements of people.

1.2.6 CLIMATE
The climate of Zambia is a tropical one; modified by altitude.

(i) RAINFALL
The rainy season stretches from November to April, followed by the cool dry season (May-August) and hot season (September to October). The terrain is mostly of high plateau with some hills and mountains. The elevation extreme aspect display lowest point such as: the Zambezi river 329 metres as the lowest point and some places located in the Mafinga Hills with 2,301 metres.

The climatic distributions of rainfall impose a strong rhythm on most of Zambia’s rural population. For the subsistence farmer, cultivation is concentrated in the rainy season lasting from November to March or April, while the long dry season period of dependence on stored crops. The most notable feature of the distribution of mean annual rainfall is the general decrease in amount from north to south. This may be attributed to the shorter time the south is influenced by Inter Tropical Convergence Zone (ITCZ). Super imposed on this pattern are areas of higher rainfall resulting from above average altitude or from proximity to lakes and swamps.

The northern half of the country has annual totals ranging from 1015 to 1520 mm with the maximum in the North West of Lake Bangweulu. An average rainfall of 1270 mm in the neighbourhood of Lake Tanganyika is somewhat higher than adjacent areas further from the lake. The southern half of Zambia has rainfall totals usually between 635 to 1015 mm, the lower figures being recorded in the middle Zambezi valley. Altitude effects
are best shown in contrasting rainfall of the Muchinga Mountains (over 1220 millimetres in places) and adjacent Luangwa valley 815 millimetres (Davies, 1971).

(ii) TEMPERATURE:
Average temperatures are moderated by the height of the plateau with the maximum varying from 15 to 27 degrees in the cool season with morning and evening temperature as low as 6 to 10 degrees and occasional frost on calm nights in valleys and hollows which are sheltered from the wind. Of late, the effect of the destroyed Ozone layer due to scientific activities has not spared Zambia at all. Vividly are the changes in temperature patterns and rainfall. Rains which used to fall from about October to mid May in the 1970s now ends in March or late February as in the case of Lusaka and other parts of the country. This change in rain and temperature now compels the research sectors of agriculture and scientists to come up with early maturing varieties of crops. Hence more Genetically Modified Organisms (GMOs) are introduced to human kind as the process involves testing and transferring of genes among species.

1.2.7 SOILS
Soil is one of the principal substrate of life on Earth serving as a reservoir of water and nutrients. It is a medium for the filtration and breakdown of injurious wastes. It is also a participant in the cycling of carbon and other elements through the global ecosystem (Encyclopaedia Britannica Article, 2007).

In Zambia, the soils of the plateau are generally of poor quality. Much of the plateau is covered by the so-called Sandveld soils. These include areas such as the southern parts of North Western province and almost the whole of Western province, Gwembe Valley, Siavonga in Southern province and several other areas. These areas have a sandy surface layer overlying a clayey subsoil and often with laterite (an iron rich horizon). Shifting cultivation is wide spread. This practice is in most of Zambian ethic groups but prominent among the Kaonde and Bemba speaking people. Soils of the Kalahari sands have little agricultural potential and are mainly under woodlands. The black clay soils of some flood plains (western parts of Zambia) and swamp areas are highly fertile, but
difficult to cultivate. The soils are waterlogged in the rainy season and rock hard when dry (Encyclopaedia Britannica Article, 2007).

The Zambia’s oldest rocks of the country are volcanic and granites of the Bangweulu block in the northeast. This old structure is partly covered by ancient sedimentary rocks, which together constitute the basement complex. Much of the land in Zambia is potentially arable with only some 10 percent actually in use. The soils tend to be sandy and on the acid side, a pattern exacerbated by nitrogen fertilization.

There is a general deficiency of phosphorus and of course nitrogen. Other deficiencies are often highly significant particularly sulphur in the high rainfall areas. Under proper management a wide range of crops can be produced at high yields and quality. (Davies, 1971).

Zambia consist most part of a high plateau with an average height of between 1060 and 1363 metres above sea level. Isolated mountain ridges rise to more than 1800 metre with an occasional peak above 2100 metres on the eastern border called Nyika plateau. Over most of the country, the surface tends to be flat and broken by small hills. The result of countless ages of undisturbed erosion of the underlying resulted into crystalline rocks. These rocks contain the country’s wealth in the form of minerals. (Davies, 1971).

1.2.8 WATER
Zambia has the best surface and underground water resources in Africa with many rivers, lakes and dams. This with the addition of high potential underground water aquifers in many areas offers excellent prospects for irrigation programs. However, these water bodies are largely unexploited. Of the countries irrigation is conservatively estimated at 423,000 hectares, only about 50,000 hectares are currently irrigated. Thus Zambia has a resource endowment for development of a wide range of crops, livestock and fish. (MACO, 2004).
Zambia has potential to expand agricultural production due to its vast resource endowment of land, labour and water. Of the Zambia’s total land area of 75 million hectares, 58 percent (42 million hectares) is classified as medium to high potential for agricultural production with rainfall ranging between 800-1400 mm annually. This is suitable for the production of a broad range of crops, fish and livestock. It is estimated that only 14 percent of the total agricultural land is currently being utilized.

1.2.9 ECONOMY

The agricultural sector is the key to the development of the Zambian economy. Agricultural generates between 18-20 percent of the Gross domestic Product (GDP) and provides livelihood for more than 50 percent of the population. The sector absorbs about 67 percent of the labour force and remains the main source of income and employment for the rural women who constitute 65 percent of the total rural population. Increase in rural incomes result in overall poverty reduction and increased food security. (MACO, 2004:2).

According to Starkey (1991) 73 percent of Zambia’s population are poor and only 23 percent are in the rich bracket. 85 percent of the people are engaged in agriculture, while 9 percent are in civil service and 6 percent in industries. Income levels have also drastically declined with low formal employment. With the abundant natural resources base, agriculture offers great potential for generating growth by way of increasing employment and incomes. Small holder farming represents a large potential resource for increased agricultural production and poverty reduction.

Historians back to the early iron-age, traced trade and industry in Zambia with evidence of smelting dating back to about AD 100. The local trade in iron and copper goods and in salt flourished throughout the subsequent centuries. While abundant evidence for long distance trade with the east is at Ingombe Ilende near the confluence of the Zambezi and Kafue. Around AD 1400 this was an important centre of trade in iron, gold, copper and ivory.
The obstacles of economic development during the years of company rule were formidable. Distances were great and communication painfully slow. By 1911, the Western and Eastern portions of the territory were administered separately from Livingstone and Fort Jameson (Chipata) respectively. Isolated within the heart of the continent, miners and farmers had to either rely on tiny local markets or produce goods of sufficient value to withstand crippling transport charges incurred in moving them to the cost centres.

When colonial office assumed direct responsibility for Northern Rhodesia in 1924, it was one of the poorest British possessions. Yet at this time, high copper prices were forcing a re-evaluation of the Copperbelt. Late 1920s were years of optimism: a high investment in mines and supporting services. Internal labour market assumed sizeable proportions (for example in 1930, thirty thousand people were employed on the Copperbelt).

According to Kaunda (2006) the price of oil went up threefold in the 1970s. This greatly affected the national budgets and the immediate and long term impact on the whole economy was big. This was because Zambia had no control over events taking place in the Middle East and other oil producing areas of the world. Thus Zambia was very vulnerable.

The rise in oil price affected the cost of getting goods and services in all sectors. What worsened things for Zambia’s economy was that while the price of fuel went up, the price of copper began to go down. This meant that Zambia could not easily proceed with the development programmes started in various fields just from independence. Zambia ended up borrowing from creditor governments and organisations, like International Monetary Fund (IMF) and World Bank in order to support development programmes.

The government embarked on an economic reform programme by 1991. It abolished foreign exchange controls, passed new investment laws and set up a stock exchange. The government also embarked on a privatisation programme, which at one point was dubbed by the World Bank as the best on the continent. All this led to Zambia being courted
enthusiastically by aid donors. This led to a surge in investor confidence in the country reflected in a growing number of investors.

1.2.10 PROFILE OF NORTH WESTERN PROVINCE:

North Western Province covers an area of 125, 826 square kilometres. It is subdivided into the following order of descending order of magnitude by district: Solwezi 30,261 km², Mwinilunga 21,116 km², Kasempa 20,821 km², Mufumbwe 20,756 km², Kabompo 14,510 km², Zambezi 14,060 km², and Chavuma 4,280 km² (CSO, 2004).

(i) Population distribution in the province

According to CSO (2004) the population of North Western Province increased from 438,216 in 1990 to 610,975 in 2000. This gave an annual population growth rate of 3.4 per cent. The population growth rate had declined from 3.8 percent in the years 1980-1990 to 3.4 percent from 1990 to 2000.

Table 6: Population distribution of North Western Province by district and by sex

<table>
<thead>
<tr>
<th>District</th>
<th>1990 POPULATION</th>
<th>2000 POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Chavuma</td>
<td>13,237</td>
<td>14,707</td>
</tr>
<tr>
<td>Mufumbwe</td>
<td>12,312</td>
<td>12,839</td>
</tr>
<tr>
<td>Kasempa</td>
<td>20,570</td>
<td>21,691</td>
</tr>
<tr>
<td>Kabompo</td>
<td>29,090</td>
<td>31,074</td>
</tr>
<tr>
<td>Mwinilunga</td>
<td>45,799</td>
<td>48,142</td>
</tr>
<tr>
<td>Solwezi</td>
<td>67,270</td>
<td>70,458</td>
</tr>
<tr>
<td>Zambezi</td>
<td>24,548</td>
<td>26,479</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>212,826</td>
<td>225,390</td>
</tr>
</tbody>
</table>


Out of the total population of 610,975 people in North Western Province in 2000, 51 percent were female and 49 percent were male. This entails that there was ultimate need to involve more women in meaningful, effective and supportive ways of development.
Although figure 2 above indicates that Lunda is the predominant language of communication in the province, but in the area of study (Solwezi) the predominant languages of communication in descending order of magnitude are Kaonde (43.1 percent) followed by Lunda (19.7 percent), Luvale (11.1 percent), Bemba (4.1 percent), Mbunda (2.5 percent), Luchazi (1 percent). Other languages like Chokwe, Tonga, Lozi, Nkoya, Nyanja, Nsenga, Mambwe, Chewa and English are spoken but mostly confined to the urban area and share the 21 percent of the remaining percentage of the distribution.

Map 3: Location of North Western Province on the Zambian Map


The province has two types of soils. The Barotse sands (sandy and acidic) found in the southern parts of the province and the sand velds. There are also the loamy soils found in the eastern and southern parts of the province. The province too has an extensive network of rivers and streams. Three of the major rivers in Zambia (Zambezi, Kafue and Kabompo) have their source in this province (CSO200 Vol. 17, 2004:1)
(iii) **Ministry of Agriculture and Co-operatives in North western province**

The Ministry of Agriculture and Co-operatives has a total of 1,500 Agricultural Camps country wide but the data in North Western Province is as tabulated in table 1.

<table>
<thead>
<tr>
<th>District</th>
<th>No. Blocks</th>
<th>Filled Blocks</th>
<th>Vacant Blocks</th>
<th>Number Camps</th>
<th>Filled Camps</th>
<th>Vacant Camps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solwezi</td>
<td>8</td>
<td>7</td>
<td>1</td>
<td>52</td>
<td>30</td>
<td>22</td>
</tr>
<tr>
<td>Mwinilunga</td>
<td>8</td>
<td>0</td>
<td>8</td>
<td>31</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Kasempa</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>23</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>Mufumbwe</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>25</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>Kabompo</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>29</td>
<td>21</td>
<td>8</td>
</tr>
<tr>
<td>Zambezi</td>
<td>5</td>
<td>0</td>
<td>5</td>
<td>32</td>
<td>13</td>
<td>19</td>
</tr>
<tr>
<td>Chavuma</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>25</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42</strong></td>
<td><strong>12</strong></td>
<td><strong>30</strong></td>
<td><strong>217</strong></td>
<td><strong>111</strong></td>
<td><strong>106</strong></td>
</tr>
</tbody>
</table>

(Source: North Western Province’s Principal Agricultural Officer’s Quarterly Report, 2006)

The table above is indicative of the fact that 49 percent of the total numbers of camps in the province are not filled by extension officers’ and even worse of at level of block stations where 29 percent of the total numbers of blocks are filled. The staff are supposed to be the main link between the farmers and the source of knowledge generated from research findings and recommendations. Therefore, the role of media in this aspect is very much inevitable as it can compliment in disseminating the required information to the farming communities, especially in areas lacking extension staff.

In Solwezi district alone (under extension) there are eight blocks with a total number of 52 camps, and 12 District Subject Matter Specialists. It is the district with the highest number of camps among the seven districts in North Western Province. The district has 12 District Subject matter Specialists and out of the blocks and camps available in the
province, seven blocks and 30 camps are filled, thus posing a serious human resource deficiency and therefore to some extent affects delivery of communication messages to the intended clients, especially in areas without staff.

The structure in the Department of National Agriculture Information Services ends up to the district at the level. This has serious impact in conducting effective service delivery. In most cases, the district officers depend on the field officers who equally are overloaded with various messages from various sectors to deliver to the farmers within the whole structure of the ministry.

Often times, the activities of NAIS have received little attention by the extension officers in the field. The activities of media are considered as a by-pass duty to be executed at the will of the field staff. The negativity displayed by staff toward NAIS activities has stifled the progression of the Radio Farm Forum groups in the rural areas.

Figure 3: Total Number of NAIS staff in the NWP

As shown in the above figure, the number of staff available in the province under NAIS is inadequate. This situation has been exacerbated by delayed recruitment of officers to fill vacant posts after the restructuring process which started in 1998. In the ministry, NAIS is a common user service like the Department of Policy and Planning; and Human
Resources and Administration because it caters for all wings of the ministry. NAIS undertakes the following functions:

Broadcasting
1. Organising and supervising radio and television programmes.
2. Recording of agricultural programmes; and
3. Production and presentation of radio programmes.

Publications
1. Production of booklets on a range of agricultural enterprises;
2. Production of brochures, posters and other agricultural publications;
3. Translation of publications into the principal vernacular languages;
4. Designing of teaching material; and
5. Distribution of audio visual teaching aids to framers institutions.

Press and Public Relations
1. Preparing and issuing press releases to the media;
2. Monitoring press reports on agriculture and maintaining a library;
3. Providing public relations and monitoring press reports on agriculture.

(iv) Status of Radio Farm Forum Groups and available radios
According to NAIS Annual Report (2006) in North Western there were a total of 234 radios. A substantive number are not functioning and this hinders effective participative listening in groups by the farmers.

Table 5 and 6 reflects the status of radios in the field by the year 2006 and since then there have been no radios distributed to any of the established Radio Farm Forum groups by the Ministry of Agriculture and Co-operatives.
Table 8: Radio Farm Forum and membership

<table>
<thead>
<tr>
<th>District</th>
<th>No. of RFF</th>
<th>Active RFF</th>
<th>Inactive RFF</th>
<th>No. of Men</th>
<th>No. of women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kasempa</td>
<td>31</td>
<td>19</td>
<td>12</td>
<td>248</td>
<td>194</td>
<td>442</td>
</tr>
<tr>
<td>Mwinilunga</td>
<td>64</td>
<td>32</td>
<td>32</td>
<td>179</td>
<td>297</td>
<td>476</td>
</tr>
<tr>
<td>Mufumbwe</td>
<td>14</td>
<td>9</td>
<td>5</td>
<td>201</td>
<td>112</td>
<td>313</td>
</tr>
<tr>
<td>Kabompo</td>
<td>24</td>
<td>12</td>
<td>12</td>
<td>113</td>
<td>67</td>
<td>180</td>
</tr>
<tr>
<td>Zambezi</td>
<td>30</td>
<td>10</td>
<td>20</td>
<td>156</td>
<td>159</td>
<td>315</td>
</tr>
<tr>
<td>Chavuma</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>Solwezi</td>
<td>71</td>
<td>50</td>
<td>21</td>
<td>467</td>
<td>289</td>
<td>756</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>234</strong></td>
<td><strong>132</strong></td>
<td><strong>102</strong></td>
<td><strong>1364</strong></td>
<td><strong>1118</strong></td>
<td><strong>2482</strong></td>
</tr>
</tbody>
</table>

(Source: Department of Agriculture Annual Report- 2006)

The table above shows that at least most of the places in the province are reached by mass media messages in the appropriate language(s). However, the number of active groups to date has reduced drastically by 43.6 percent in the province. This is a result of radio breakdowns and lack of consistence in repairing them. The department had no Maintenance Officer for a long time until about 2002 when an officer was deployed to the provincial NAIS office. Apparently, the officer passed away in 2006 and there has been no replacement. Table 9 hereunder shows the total number of radios in the province at the time of the study.

Table 9: Radio Farm Forum Radio sets in North Western Province

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Functional Radios</th>
<th>Non functional Radios</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRZ</td>
<td>138</td>
<td>96</td>
<td>234</td>
</tr>
<tr>
<td>Self-help</td>
<td>16</td>
<td>-</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>154</strong></td>
<td><strong>96</strong></td>
<td><strong>250</strong></td>
</tr>
</tbody>
</table>

(Source: North Western Province 2006 Annual Report).

The self-help radio listening groups are organised groups that come together to listen to agricultural programmes on air using volunteered radios. This approach is gradually being
adopted due to farmers’ perception that the government is supposed to provide radios and batteries for them.

(v) Farming systems and cattle situation
North Western Province contains large areas of sparsely populated woodlands. It has relatively high annual rainfall of 1100-1400 mm. Farming systems are mainly based on shifting cultivation with the chitemene system of forest fallow (or bush fallow) cultivation being common in the Solwezi, Kasempa and Mwinilunga districts. Such systems depend almost entirely on human labour using simple hand tools such as hoes and axes (Starkey et al 1991:21).

According to Starkey et al (1991) there were approximately 60,000 cattle in the province. The cattle are concentrated in the west towards the border with Angola, where the tsetse challenge is low. Zambezi and Mwinilunga districts are the most important cattle areas. These two districts provide most of the steers used for animal traction in the province. Cattle and animal traction spread eastwards from Zambezi into Kabompo. This trend was assisted by the North Western Province Integrated Rural Development Project (NWIRDP). Cattle and work oxen numbers is as shown in table 9.

(vi) Education and health
Education plays a fundamental role in the overall development of nations. It is for this reason that education has been declared by many countries as a human rights issue. This was attested by the Jomtiene Declaration on Education for All (EFA 2000) and the 1990 Convention on the Rights of the child. The Zambian government recognized the important role of education in grooming morally and intellectually upright individuals.
In North Western Province, the literacy rate remained low. The literacy rates of the population of five years and above marginally improved between 1990 and 2000 from about 42 percent to 43 percent respectively meaning over half of all the persons of five years and above were illiterate by the year 2000.

Literacy rates for males in urban are much higher than those for females in rural areas. Children coming from rural and female were disadvantaged. (CSO Census, 2000). The
census also found out that there were 382 basic schools and 21 secondary schools, and three colleges namely; Solwezi Teachers’ Training College, Solwezi Trades Training Institute and Mwinilunga Trades Training School.

The province, by the year 2000 Census had nine hospitals and 109 Health Centres. Of the nine hospitals, four were government run while five were under the missions. Of the 109 health centres, nine belonged to missions.

1.2.11 PROFILE OF SOLWEZI DISTRICT
Solwezi district is the provincial headquarters and is the largest district in the province with a total area of 30,261 square kilometres. The district occupies twenty four percent of North Western Province (which is 125,826) and four percent of the total area of Zambia (which is 752,614 km²).

This district also has had the IFAD Agricultural Development Project support that operated in the area from about 1982 to 1992. The district has several ethnic groups such as the Kaondes, Lundas, Luvales, Chokwes and Lambas and few of those from other parts of Zambia.

Solwezi district lies in the high rainfall zone of North Western Province of Zambia. Its rainy season stretches up to six months (November to April). The southern parts of the province normally receive medium rainfall of about 1000mm. The northern parts of Mwinilunga and Solwezi districts normally have high rainfall ranging from 1300 to 1400 mm per annum.

The main agricultural activities that take place in the area are crop farming, livestock rearing (e.g. cattle, chickens and goats), beekeeping, nutrition activities, fish farming, women clubs and co-operative movements. Several institutions (government, NGOs and others) also have accessed the area to assist the people in various forms.
The Ministry of Agriculture and Co-operatives in Solwezi district uses a variety of extension methods. Examples of the methods used are the individual farm visits, group discussions (Radio Farm Forum inclusive), field days, agricultural shows, adoption plots, demonstrations. The main crops grown in the province are: maize, beans, groundnuts, finger millet, sorghum, cassava, pineapples, bulrush millet etc.

Solwezi district has currently no individual commercial farmers, apart from the three existing Zambia National Service institutions. These ZNS institutions include Katandano ZNS (40 hectares), Kamitonte ZNS (25-30 hectares) and Mumbeji (30-35 hectares cultivated). The state in terms of total number of farmers is as reflected in table 10.

<table>
<thead>
<tr>
<th>Category</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Scale Farmers</td>
<td>5,140</td>
<td>2,149</td>
<td>7,289</td>
</tr>
<tr>
<td>Medium Scale Farmers</td>
<td>109</td>
<td>18</td>
<td>127</td>
</tr>
<tr>
<td>Total</td>
<td>5,249</td>
<td>2,167</td>
<td>7,416</td>
</tr>
</tbody>
</table>

(Source: The Acting Senior Agricultural Officer- 2006)

Taking an example of maize crop 5562 hectares was cultivated in 2006 as shown in figure 3 below. When divided by the total number of farmers in the district (7,416 both medium and peasant), each farmer on average cultivated less than a hectare (0.75 hectare or 3 Lima) was grown on average. The graph below shows details of the area cultivated per crop:
According to the crop forecasting figures presented by the ministry in Solwezi district in 2006 yields per crop were: Maize 44,496 x 50 Kg bags, Beans 5,849 x 50Kg bags, Groundnuts 1,322 x 50 kg bags, Finger Millet 79 x 50 kg bags and Sorghum 109 x 50 kg bags.

(i) Constituencies
Administratively, Solwezi has three constituencies subdivided into twenty wards. The table below shows the constituencies, wards and population per ward.
Table 11: Political administrative area and population in Solwezi district by wards

<table>
<thead>
<tr>
<th>NO</th>
<th>CONSTITUENCY/WARD</th>
<th>HOUSEHOLDS</th>
<th>MALE</th>
<th>FEMALE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>SOLWEZI EAST</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>Chikola</td>
<td>954</td>
<td>2,290</td>
<td>2,195</td>
<td>4,485</td>
</tr>
<tr>
<td>1.2</td>
<td>Kangwena</td>
<td>1,101</td>
<td>2,474</td>
<td>2,473</td>
<td>4,947</td>
</tr>
<tr>
<td>1.3</td>
<td>Kalilele</td>
<td>521</td>
<td>1,395</td>
<td>1,234</td>
<td>2,629</td>
</tr>
<tr>
<td>1.4</td>
<td>Mulonga</td>
<td>1,857</td>
<td>4,645</td>
<td>4,671</td>
<td>9,316</td>
</tr>
<tr>
<td>1.5</td>
<td>Mapunga</td>
<td>1,371</td>
<td>3,276</td>
<td>3,385</td>
<td>6,661</td>
</tr>
<tr>
<td>1.6</td>
<td>Mujimanzovu</td>
<td>513</td>
<td>1,340</td>
<td>1,307</td>
<td>2,647</td>
</tr>
<tr>
<td>1.7</td>
<td>Sandang’ombe</td>
<td>1,378</td>
<td>3,770</td>
<td>3,345</td>
<td>7,115</td>
</tr>
<tr>
<td></td>
<td><strong>Sub total</strong></td>
<td><strong>7,695</strong></td>
<td><strong>19,190</strong></td>
<td><strong>18,610</strong></td>
<td><strong>37,800</strong></td>
</tr>
<tr>
<td>2.0</td>
<td>SOLWEZI WEST</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>Mumena</td>
<td>6,334</td>
<td>17,570</td>
<td>1,7869</td>
<td>35,440</td>
</tr>
<tr>
<td>2.2</td>
<td>Kibanza</td>
<td>395</td>
<td>899</td>
<td>834</td>
<td>1,733</td>
</tr>
<tr>
<td>2.3</td>
<td>Mukumbi</td>
<td>1,290</td>
<td>3,401</td>
<td>3,356</td>
<td>6757</td>
</tr>
<tr>
<td>2.4</td>
<td>Matebo</td>
<td>5,019</td>
<td>11,484</td>
<td>11,694</td>
<td>23,178</td>
</tr>
<tr>
<td>2.5</td>
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</table>

(ii) TRADITIONAL RULERS

Traditional rulers play a very big role in the control, communication, and general development of any given locality. Solwezi district has ten traditional rulers namely; Kapijimpanga, Mumena, Matebo, Kaliile, Musele, Chikola, Mujimanzovu, Mulonga, Shilenda, and Mukumbi (one time was a Member of Central Committee in politics during the Kaunda regime). Of the ten chiefs in Solwezi, the senior chief is Mujimanzonvu.

According to Pelgrim (2003) recent scholars have that traditional rulers ('kings' or 'chiefs') occupy a pivotal role in the dynamics of power in Africa. They control symbolic capital, which the nation-state dearly needs. Traditional rulers negotiate with national and international bodies in numerous ways and with varying, often surprising outcomes.

1.3.0 STATEMENT OF THE PROBLEM

Although the use of mass media had been of great importance to supplement the current extension system in the country, very little had been done to examine the extent to which such services were being utilised by the farmers and extension staff. Similarly, little is known of the impact Radio Farm Forum (RFF) have had on the farming communities. It is on this premise that this research study focused in order to establish the extent to which RFF impacts on the farmers.

The rate of adoption of new farming technologies and their retention by farmers is relatively at a very slow pace. This is evident in that farmers are still static in terms of area cultivated; yield and very little progress takes place in their farming practices. This subjects the Ministry of Agricultural and Co-operatives to public criticism as an ineffective, inefficient and unproductive ministry.

The Ministry of Agriculture and Co-operatives adopted the use of mass media to broadcast agricultural technical information through the radio as a complementary and quickest medium. Radio broadcasts reinforces and fills the gap in places where there are no extension officers. Radio reinforces the efforts of the staff in terms of coverage.
At field level farmers are organised in groups to be reached through Radio Farm Forum broadcasts. The members of these groups are supposed to listen to the radio on scheduled days, time and in the appropriate language of the area. The lessons are either presented on radio by a subject matter expert or use material recorded from progressing farmers or group of them.

It is hoped that these same organised groups of farmers can take the role of being opinion leaders. Radio Farm Forum members are expected to convey or share the learnt information to others in the communities where they live.

The study, therefore, was intended to find out how the farmers accessed information and how they used it either as individuals or members in the communities they lived. The researcher also wanted to know from the farmers as to whether the messages disseminated on mass media have been helpful or not among other issues of interest.

1.4.0 RATIONALE

This study was important in that the findings might indicate the needs of the farmers. The findings could also be incorporated among the criteria upon which communicators can be selected. The findings may also guide policy makers and programme organisers to formulate policies that promote strategies in the agricultural delivery systems that are gender sensitive.

Future postgraduate programmes in communication might find it useful to incorporate the findings in the designing and presentation of lessons. The results would also contribute to the body of knowledge in the social science researches. The findings may suggest viable recommendations that may be used by any development oriented agent to apply appropriate tools of communication in Radio Farm Forum activities.
OBJECTIVES OF THE STUDY

The overall objective was to establish the degree to which RFFs as a strategy in agriculture extension has been beneficial to the farmers in Solwezi district. It sought to identify the clients' media perception, attitudes and effectiveness of participative group listening to the radio.

The specific objectives were to:

1.5.1 Investigate the form and content of agricultural radio communication messages farmers were most interested in and identify other sources of media farmers derived their knowledge from.

1.5.2 Assess whether farmers knew the importance of listening to agricultural programmes disseminated on radio.

1.5.3 Identify barriers hindering effective listening to agricultural programmes disseminated on radio and collect farmers' suggestions and possible solutions for solving the prevailing constraints in the communities they live.

1.5.4 Assess farmers' listening frequency to the agricultural programmes disseminated on radio.

1.5.5 Determine the uses and gratifications of agricultural technical information disseminated on radio.

1.6.0 LIMITATIONS OF THE STUDY:

A sample of respondents comprising of more than one district in North Western Province should have been desired. However, time and financial constraints could not permit a large sample although the factor under study was very important. Nevertheless, scientific sampling procedures were followed in selecting respondents.
CHAPTER 2: METHODOLOGY

2.1 INTRODUCTION

The researcher used the triangulation approach suggested by scholars as ideal to take care of various concerns (Cresswell, 1998). According to Yin (1984) triangulation is the application and combination of several research methodologies in the study of the same phenomena. Yin further states that triangulation is good in that:

1. It can be employed in both quantitative (validation) and qualitative (inquiry) studies.
2. It is an appropriate strategy of founding the credibility of qualitative analysis.
3. It becomes an alternative to “traditional criteria like reliability and validity.”
4. It is the preferred line in the social sciences.

2.2 RESEARCH QUESTIONS

2.2.1 Which form and content of agricultural information materials or messages are farmers most interested in?

2.2.2 Do farmers realise the importance of listening to agricultural programmes aired?

2.2.3 What are the barriers hindering effective listening to agricultural programmes?

2.2.4 What are the possible solutions to overcoming these constraints?

2.2.5 How often do farmers listen and/or have access to Radio Farm Forum (RFF) programmes?

2.2.6 How do farmers make use of the technical information acquired from radio?

2.2.7 What is the input from the staff and farmers towards the sustenance of the RFF programmes?

2.3.0 METHODS

The Researcher used a variety of methods in order to gather sufficient data representative of the situation. This included use of:

1. Quantitative survey;
2. Focus group discussions with sampled Radio Farm Forum groups; and
3. In-depth interviews with some purposively selected respondents for detailed information gathering.

2.4.0 POPULATION AND SAMPLE
The study was restricted to a sampling frame of a population comprising of farmers that were involved in farming and participated in the radio listening groups. Out of the total of 756 (i.e. 467 male and 289 female) farmers belonging to recorded groups in Solwezi district, a sample of 120 farmers was drawn. One focus group discussion (of about 6-8 people) in each of the eight camps, and in-depth discussion with three provincial based staff, two district based staff, four Block Extension Officers and eight Camp Extension Officers. The agricultural officers were included in order to justify external validity.

2.5.0 SAMPLING PROCEDURE
The researcher used the Multi-stage cluster sampling procedure to come up with the names of respondents and group(s) in this study. From the eight blocks available in Solwezi district, the researcher used simple random sampling to come up with four blocks. From each of the four (4) blocks, two camps and a Radio Farm Forum group within each camp were sampled. The actual individual respondents belonging to the forum were sampled using the systematic random sampling procedures where there was a complete sampling frame. Where there was no sampling frame, the simple random sampling method was used. Purposive in-depth discussions with agricultural staff were carried out in order to capture details from implementers of information delivery system to the clients.

2.6.0 DATA GATHERING
The researcher utilised four data collection procedures and these are: (1) use of open-ended and closed questions, that is, administered one hundred and twenty questionnaires; (2) observation method so as to capture extra information that might not be got through questions, (3) reviewed records kept at the camp station and the district agricultural office, and (4) conducted focus group discussions, which comprised of 8-10 farmers.
In-depth interviews were held with three provincial based agricultural staff; three district based staff, four block extension officers and eight camp extension officers.

2.7.0 DATA ANALYSIS

The researcher used the Statistical Package for the Social Sciences (SPSS) to analyse the data collected from the field. In this case, the researcher analysed data by use of tables, frequencies, percentages, charts and graphs, and other data summarising tools.
CHAPTER 3: CONCEPTUAL AND THEORETICAL FRAMEWORK

This section focuses on the conceptual and theoretical framework as used and applied in this research study of Radio Farm Forum. In addition, it states the main theories and their applicability to a study of this nature.

A conceptual framework is the definition of a concept by a set of other concepts. A conceptual definition simply state the distinctive characteristics of that which is being defined. According to Ng’andwe (2001) what distinguishes an operational definition from the other is that it is easily testable and what is testable is easily observable.

3.1 CONCEPTUAL AND OPERATIONAL DEFINITIONS OF CONCEPTS

Definition of terms

In order to facilitate understanding, the definitions pertinent to the study were considered.

3.1.1 Communication

Communication in this study refers to the process of exchanging ideas, information and opinions through speech, writing, pictures, and other symbols (Elkamel, 1986). It is a sharing process where a source shares messages with a receiver via a certain channel in order to influence the receiver’s thoughts and actions (Ibid.). People engage in the communication process for a variety of purposes. For example, to obtain information and education, training, advice, rewards, to express feelings and emotions and to participate in entertainment. For instance, almost all major religions rely on communication to spread their messages beyond the local core of believers. The communication that occurs between two persons or among a homogenous and physically small group is called interpersonal, or person-to-person, or face-to-face, or personal, or direct communication (Elkamel, 1986).

3.1.2 Mass communication

This communication process refers to the form of communication that takes place among large, heterogeneous and physically scattered numbers of individuals. Then
communication includes that involving radio, television, newspapers, books, newsletters, brochures, pamphlets, billboards and so on.

**Participatory communication**

The term participatory communication is used as a descriptive category to refer to the active involvement of groups of farmers in listening to the radio.

According to Servus et al (1996) peoples’ participation has historically been the ideological basis for a democratic society. Participatory communication is not new; it has been practiced and promoted for many decades in a variety of fields. It has also received a considerable attention in industrialised countries in adult education and communication for development.

### 3.1.3 Communication for development

In this study, the term is used to encompass many different media and approaches. It includes folk media and traditional social groupings, rural radio for community development, video and multi media modules and others (Espanol, 2005).

### 3.1.4 Development communication

Development communication refers to organised efforts to use communication processes and media to bring social and economic improvements, generally in developing countries. In other words, this refers to interventions that originate from outside the control of the community (Schramm, 1964). These interventions are delivered through government, international development institutions and Non-Governmental Organisations.

### 3.1.6 Opinion leaders

In this study, it refers to persons identified as having strong interest in their niche ((Glock, 1952). It also refers to a person or agent who is an active user and interprets the meanings of media messages or content for lower media users (Katz et al, 1955). In other words, an opinion leader is someone who has an expertise in a certain field. With this
expertise, opinion leader’s thoughts and preferences are valued by those who know less about that particular field. These are the people holding positions within the community affording them special competence in their particular function. Typically the opinion leader is held in high esteem by those that accept their opinions.

According to Katz et al (1955) opinion leaders generally have contact with the relevant information sources from outside their immediate circle and receive relevant amount of their external information from media appropriate to their role. Opinion leadership tends to be subject oriented. This implies that one person that is an opinion leader in one field may be a follower in another field.

3.1.7 Radio Farm Forum Group
This refers to a group of farmers that are organised to come together in a participatory manner for the purpose of utilising radio to acquire agricultural educational material on scheduled days and time (Ngangula, 1990). It adopts the motto “Listen, Discuss, Act.” It is also a self-help activity based upon organised discussion, feedback and implementation.

3.2.0 MAIN THEORIES USED IN THE STUDY

3.2.1 Selective exposure, selective perception and retention, and shared interest:
Klapper (1960) formulated several generalisations on the effects of mass media, which still stand. He initially investigated more than 1000 research reports, studies and essays on mass communications. He used 270 of these as a basis for his formulations, maintaining that the main tendency of the research findings is as follows: "Mass media ordinarily do not serve as a necessary and sufficient cause of audience effect, but rather functions among and through a nexus of mediating factors and influences (Ibid.)." These mediating factors are such that they typically render mass-communication a contributory agent, but not the sole cause in a process of reinforcing the existing conditions (Klapper, 1960).
Klapper (1960) described the main mediating factors, which he considered responsible for the functions and effects of mass communications as:

1. **Selective exposure**- is people's predisposition to expose themselves to those mass communications which are in accord with their attitudes and interests.

2. **Selective perception and retention** are people's predisposition to perceive and retain communication messages which are in accord with their already existing views.

First, the fact that people interact as members in social groups usually increases the reinforcing effect of the factors mentioned above (Ibid.). The group sees to it that the individual member does not deviate from its norms of behaviour. This group pressure reduces the effect of mass communication to a sort of accompaniment (Ibid.). The group context causes the individual member to be confronted by certain messages, and also causes him or her to interpret the messages in a group conformant way.

Second, the fact that people communicate with each other influences their behaviour in many more ways than mass communication (Ibid.). Moreover, it influences them in favour of constancy and reinforcement.

Klapper's notions of selective exposure and selective perception were deepened by other researchers. Notably in Sweden Cerha (1967) in an enormous sample of 50,000 adults; found that shared interests are the channels through which communication flows. People's interests control the flow of information in society. People communicate when they share an interest in a given topic.

### 3.2.2 DIFFUSION OF INNOVATION THEORY

One of the greatest pains to human nature is the pain of a new idea (Walter, 2006). It makes you think your favourite notions may be wrong and your firmest beliefs ill-founded. Naturally human beings may hate a new idea and may be disposed more or less to ill-treat the original person who brings it.
Everett Rogers (1994) defines diffusion as the process by which an innovation is communicated through certain channels over time among the members of a social system. Three elements present in the diffusion of innovation theory process are:

1. **Innovation**- an idea, practices, or objects that is perceived as new by an individual or other unit of adoption;
2. **Communication channels**- the means by which messages get from one individual to another; and,
3. **Time**- is about relative time with which an innovation is adopted by an individual or group, and an innovation's rate of adoption and social system.

**FIVE CATEGORIES OF ADOPTERS**

Rogers (1994) identified five characteristics for each adopter category, which are also of significance to advertisers interested in creating an integrated marketing plan targeting a specific audience.

1. **Innovators**

These are characterised by their more cosmopolite and higher socioeconomic status than late adopters (Ibid.). These require a shorter adoption period than any other categories. They are venturesome, desire for the rush, and bold and bear risks. They also have the control of substantial financial resources to absorb possible loss from an unprofitable innovation.

They too have the ability to understand and apply complex technical knowledge. In addition, they have the ability to cope with a high degree of uncertainty about an innovation. Innovators have a multiple information sources and greater propensity to take risk. The innovators account for 2.5 percent of any innovation or idea (Ibid.).

2. **The Early Adopters**

These have the greatest degree of opinion leadership in most systems. They serve as role models for other members of society, are respected by peers, and are generally
successful. Early adopters are social leaders, popular, and educated. The early adopters account for 13.5 percent of any new innovation or idea (Ibid.).

3. The Early Majority
This category includes those who interact frequently with peers, but seldom hold positions of opinion leadership. They comprise one-third (34 percent) of a system in any new idea of adoption. These deliberate before adopting a new idea (Ibid.).

4. The late majority
This group comprises one-third (34 percent) of the members of a system and these get pressure from peers. They have an economic necessity, sceptical, traditional, cautious and of lower socio-economic status (Ibid.).

5. The Laggards
The laggards are those who possess no opinion leadership and account for 16 percent of any new innovation or idea. They are isolates and have a point of reference in the past. They are usually suspicious of innovations and their innovation-decision process is lengthy. Their resources, too, are limited and fear debts. Neighbours and friends are their main information sources (Ibid.).

THE ADOPTION PROCESS
According to Rogers (1994) the adoption process is the mental process through which an individual passes from first hearing about an innovation to final adoption. Rogers broke the adoption process down into five stages. These are: (i) Awareness- at this stage the individual is exposed to the innovation but lacks complete information about it; (ii) Interest- the individual becomes interested in the new idea and seeks additional information about it; (iii) evaluation- at this stage the individual mentally applies the innovation to his or her present and anticipated future situation, and then decides whether or not to try it; (iv) trial- the individual makes full use of the innovation; and, (v) adoption- the individual decides to continue the full use of the innovation.
Rogers (1994) also proposed a five stage model for the diffusion of innovation:

a) Knowledge - learning about the existence and function of the innovation
b) Persuasion - becoming convinced of the value of the innovation
c) Decision - committing to the adoption of the innovation
d) Implementation - putting it to use
e) Confirmation - the ultimate acceptance (or rejection) of the innovation

Why is the Adoption Process of any relevance to agricultural communication extension? The purpose of communicating agricultural information is to enhance understanding. This, hopefully, results in increased adoption of technologies with a view to increasing profits for the clients. It is through analysing and understanding the adoption process that social scientists, marketers and advertisers are able to develop a fully integrated marketing and communication plan. Rogers (1994) pointed out that an innovation could be rejected during any stage of the adoption process. Rogers (1964) defines rejection as a decision not to adopt an innovation. Rejection is not to be confused from discontinuance. Discontinuance is a rejection that occurs after adoption of the innovation.

3.2.3 CULTIVATION THEORY

Cultivation theory (sometimes referred to as the cultivation hypothesis or cultivation analysis) was an approach developed by Professor George Gerbner, then Dean of the Annenberg School of Communications at the University of Pennsylvania. He began the 'Cultural Indicators' research project in the mid-1960s to study whether and how watching television may influence viewers' ideas of what the everyday world is like.

Cultivation theorists argue that television has long-term effects that are small, gradual, indirect but nevertheless cumulative and significant (Gerbner, 1976). They emphasise the effects of television viewing on the attitudes rather than the behaviour of viewers (Ibid.). Heavy watching of television is seen as 'cultivating' attitudes, which are more consistent with the world of television programmes than with the everyday world. Watching television may tend to induce a general mindset about violence in the world, quite apart from any effects it might have in inducing violent behaviour.
Gerbner (1982) further argues that mass media cultivate attitudes and values, which are already present in a culture. The media maintain and propagate these values amongst members of a culture, thus binding it together. Gerbner further stated that television tends to cultivate middle-of-the-road political perspectives.

Cultivation research is in the 'effects' tradition (Ibid.). Cultivation research looks at the mass media as a socialising agent. Gerbner and his colleagues contend that television drama has a small but significant influence on the attitudes, beliefs and judgments of viewers concerning the social world. The focus is on 'heavy viewers'. People who watch a lot of television are likely to be more influenced by the ways television programmes frame the world (Ibid.)

As McQuail and Windahl (1993) note "Cultivation theory presents television as not a window on or reflection of the world, but a world in itself." Gerbner also argued that the over-representation of violence on television constitutes a symbolic message about law and order rather than a simple cause of more aggressive behaviour by viewers (Miller, 2005). The same survey showed that children who were heavy viewers were more fearful about walking alone in a city at night.

3.2.4 AGENDA SETTING THEORY

(i) HISTORY AND ORIENTATION

The theory of agenda setting falls within the realm of powerful media effects (McCombs, 1977). Agenda setting describes a very powerful influence of the media. This is the ability to tell the audience what issues are important (Ibid.). Mass media effects cognitive change in the public and structures the public's agenda by controlling its awareness and information is known as the agenda setting function of mass communication (Ibid.).

McCombs and Shaw investigated presidential campaigns in 1968, 1972 and 1976. In the research done in 1968 they focused on two elements: awareness and information. In investigating the agenda setting function of the mass media, they attempted to assess the relationship between what voters in one community said were important issues and the
actual content of the media messages used during the campaign (McCombs and Shaw, 1977).

McCombs and Shaw (1977) concluded that mass media exerted a significant influence on what voters considered to be the major issues of the campaign. McQuail (1993) stated that the media simply by the fact of paying attention to some issues and neglecting others will have an effect on public opinion. For example, the mass media force attention on certain issues, and build up public images of political figures (Ibid.). Media constantly present objects suggesting what individuals in the mass should be thinking about (Ibid.). In short, as Bernard Cohen (1963) stated, “the press may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about.”

(ii) **Core Assumptions and Statements**

Agenda setting is the creation of public awareness and concern of salient issues by the news media. Two basic assumptions underlie most research on agenda setting (McCombs, 1977):

1. The press and the media do not reflect reality; they filter and shape it (Ibid.).
2. Media concentration on a few issues and subjects leads the public to perceive those issues as more important than other issues (Ibid.).
CHAPTER 4: LITERATURE REVIEW

4.1 IMPORTANCE OF RADIO

The importance of radio as a medium of adult education and community development in a developing country needs no special emphasis. Knowledge and information are essential for people to successfully respond to the opportunities and challenges of social, economic and technological changes. For it to be useful, knowledge and information must effectively be communicated to people (Elkamel, 1986).

The principle behind the rural forums is to assemble a group of farmers and introduce the problems by radio to them (Ibid.). The listeners are then given a chance to talk it over and decide what to do about it. The essential ingredient is participation in decision-making and action (Ibid.).

The old ideas of knowledge transfer and communication spring from the assumed power of mass media and educational technology (Ibid.). They were further fuelled by the frustrations of those who assume they are more knowledgeable than others (Ibid.).

The concept of cross-cultural communication in the context of the competence, validity and legitimacy of all lifestyles and cultures has led more recently to the idea of participatory communication (Fuglesang, 1997). Already, this concept is gravitating towards the much larger issue of community participation (Ibid.).

The World Association of Community Broadcasters (AMARC by its French initials) noted in 1991 that there were fewer than 10 independent radio stations on the entire continent. Today, South Africa alone has more than 150 community stations, and other countries are catching up. Mali has one of the strongest community radio networks in Africa. In Zambia, the information media blossomed after the fall of the last one-party regime in 1991. The fall of the one-party system led to the end of an outright state monopoly of the means of communication. Mali has more than 110 private radio stations; 86 of them are community radios, mostly rural based (AMARC, 2001).
4.2 TYPES OF FORUMS

In Zambia, Radio Farm Forums are classified into three groups; namely: Main, Self-Help and Aided Forums (Ngangula, 1990). The “Main Forums” were all those supplied with radio sets by the government bought at subsidised prices, and farmers meet at agricultural camps under the direct supervision of the Agricultural Extension Workers. Self-help forums were formed by individual farmers and co-operatives using their own radios (Ibid.). The “Aided Forums” were run at the sub-centres of the Department of Community Development by its officers using radio sets lent by the Department of Agriculture. The Department of Community Development took up the responsibility for the training of the Chairpersons and Secretaries and for the supply of registers.

4.3 RADIO SETS

No recent surveys have been done to determine how many people own or have access to radio sets in Zambia. The number is probably on the low side. This conclusion is arrived at because the cost of radio sets in the country had risen to high levels which many rural Zambians cannot afford. (Kasoma, 2002).

Radio’s effectiveness depends not only on its built-in qualities but more importantly on how it is used and for what purposes. Any use of radio as an educational medium should base on: (a) the effects that radio is expected to have on the listening audiences, (b) on the level of target audience participation, and (c) on the structure of reception possible.

4.4 ORGANISATION AND FUNCTIONS OF FORUMS

About 20 villagers interested in agriculture and rural developments are selected by the competent authorities to constitute the forum with one of the members as Chairperson and another active person as Secretary or Convener. The forum assembles in a central place like the agricultural camp, school or the house of the headman of the village.

The group listens to radio programmes broadcast to them on radio and discuss the idea underlying the programmes. They also seek clarification through broadcasting officers on points not clear and make decisions regarding follow-up activity to be pursued. The
Secretary records the minutes and maintains a register of attendance. The Secretary prepares a short report on a prescribed form known as "Proceedings and discussions report of listening groups." This form is sent to the Chief Organiser and a copy to the broadcasting station. Experts in the subsequent broadcasts answer questions from the forums.

4.5 INFORMATION AND SOCIAL OUTCOMES

Information outcomes are the cognitive and attitudinal consequences of the audience exposure to the media content. In a research concerning the communication effects on the gap in knowledge among different social groups, Tichenor et al (1970) suggested that the reason why some people learn more than others from the media is the self-selective nature of the audience.

Although all groups may have access, those that are better off are more likely to take advantage of the information available. Thus although there might be general potential exposure, the real exposure between poorer and better off members of the audience will differ. The audience with better education and higher social status will expose themselves more and gain more from the information. Only where relevance of the content is specifically geared to lower socioeconomic groups and information appropriate to their lower needs is developed, will this knowledge gap be halted or reversed. Even this approach might be of limited value if the underlying unequal distribution of not only information but also of resources.

In the beginning of the 1980s, there were signs that communication was being perceived as an interaction between two or more cultural partners of equal stature. And the notion of inter-cultural or cross-cultural communication appeared (Kasoma, 1997). The governing idea was that communication was a mutual learning process from which each cultural partner could derive knowledge valuable for its own development (Fuglesang and Chandler, 1997). For example, research revealed that traditional subsistence farmers in many cases had known better than the agricultural experts what cultivation methods were appropriate in their own environment. As Yunus (1982) pointed "Poor people know
what they must do to get out of the rut, but the people who make decisions refuse to put faith in their ability."

4.6 SHARED INTERESTS, CREDIBILITY AND TRUST

Cerha (1967) pointed to the importance of the limitations of the human brain to process information. With a capacity to store and handle only 5000 words our brain is simply inadequate to cope with the enormously differentiated information complexity of the world. The only mechanism our brain has to solve this problem is selective perception.

The implication of this is that the individual becomes specialised, by selecting a few topics according to his or her interests. People quickly sort themselves out in couples or groups conversing about topics of mutual interest (Cerha, 1967). In other words, people's shared interests are topical. Expanding on Klapper's views, Cerha arrived at the following conclusions (Ibid.):

1. With increasing topical interest, there is increasing exposure to topical information, but not to information in general. In other words, a man who was very interested in crop production subjects would expose himself selectively and extensively to sources giving information on that topic. These sources may include farming magazines, newspaper items on agriculture, television programmes featuring agriculture activities and, of course, those people interested in agriculture activities.

2. The study confirmed that increased exposure is relatively independent of the type of medium. Exposure to both interpersonal and mass communication increases with increasing interest. Therefore, there is little basis for claiming particular persuasive powers for the mass media.

3. Both the advising and the seeking activity of a person for information increase with rising interest in a topic.
What clearly emerges from the above conclusions is that shared interests are the cohesive force in social networks or larger social formations and this can explain the evolution of such formations. Whatever human beings endeavour to do with their societies, they can succeed in doing so only through sharing. Sharing of interests, however, cannot be superimposed. It will emerge only from an open, free and unimpeded information flow in society. Shared interests highlight the strength of homogenous and egalitarian corporate groups and expose the weakness of hierarchical formations (Ibid.).

Ultimately, the ideal sharing of interests is expressed by the achievement of a social consensus and state of mutual trust. Intuitively, we recognise there is a close connection between the concepts of topical and shared interests and the more colloquial notions of credibility and trust (Cerha, 1967).

It should be no surprise to us that the effectiveness of a medium or a communicator hinges on their credibility in the eyes of the audience (Ibid). While researchers and practitioners for decades have been preoccupied with ascertaining the effectiveness of media, it has escaped us that human beings; indeed, do not communicate through media technology but through trust (Ibid.). Communication succeeds only through a gained trust of people and a genuine trust in people (Ibid.).

Trust becomes the decisive factor in communication. It is in the issue of community participation and social transformation. Adult educators or communication practitioners have never been particularly interested in trust.

4.7 AGRICULTURE
The sectors contribution to GDP averaged 18 percent over the decade preceding the study. Some 75 percent of Zambia’s population is engaged in agriculture, largely subsistence farming which remains vulnerable to weather fluctuations (Zambia Poverty Reduction Strategy Paper 2002-2004). The real growth rate in the agricultural sector has fluctuated significantly mainly due to the sector’s high dependence on seasonal rainfall,
reduced investments and the failure to strategically position the sector according to its comparative advantage (ZPRSP, 2004).

4.7.1 KEY PARTICIPANT IN THE RADIO FARM FORUM PROGRAMMES
The government of the Republic of Zambia was a key participant in the RFF programme, providing both technical and financial assistance. This assistance included the provision of radios and batteries on a monthly basis, subsidised fertiliser and seed, and pre-paid mail service so that farmers did not have to purchase stamps and envelopes to send in their feedback and reports.

Overall, the government established 1000 RFF groups throughout Zambia and because of its assistance, from 1968 to 2001, a total of 31 radio programmes were broadcast weekly in all the seven local languages and English. Without the extensive support from the Zambian government, it is likely that the RFF programme would not have gotten off the ground (Ngangula, 1990).

4.7.2 CAPACITY BUILDING
Feedback from the farmers to the Ministry of Agriculture is often delayed and sometimes lost. But when it does go through it provides a means for the farmers to address the concerns of their own communities and, in general, communicate with the officials at the ministry (Bobbili et al, 2005). The general framework of the programme allows for large-scale dissemination of ideas and best practices to farmers in all regions of Zambia (Ibid.).

Each radio listening group can further disseminate the knowledge they have gained to other members of their communities thereby increasing the impact of the programme. The involvement of the Ministry of Community Development and Social Services where illiterate farmers are taught functional literacy provides them with valuable tools they can use to improve the quality of their own lives (Ibid.).
4.7.3 TECHNOLOGY
One of the best decisions made by the programme was to use the radio as a means of communicating information to farmers in rural areas of Zambia. The radio is an amazing form of technology because it does not require literacy. Radio can traverse great distances and affect large numbers of people and is affordable to most citizens in developing countries. However, radios require batteries and often times repairs. Both of these factors pose significant problems throughout the course of the programme (Ngangula, 1990).

4.7.4 FINANCES
The Ministry of Agriculture primarily pays for radio airtime (Ngangula, 1990). They additionally facilitate many production tasks including recording, producing and transmitting radio programmes (Ibid.).

4.7.5 FACTOR PROMOTING PROGRAMME DEVELOPMENT
The use of the radio as the main mode of communicating information to the farming communities has proven very successful. This is because radio is affordable and can reach large numbers of the farming population where the extension officers simply do not have the human resource or transport to reach them (Ngangula, 1990).

4.7.6 RADIO LISTENING GROUPS
According to Ngangula (1990) the formation of the radio listening groups has given the farmers a sense of ownership of the project. It has ensured that the farmers listen to the programmes and ask questions which are later answered by the staff at the Ministry of Agriculture and Co-operatives. The radio listening groups were also really successful because they extended the traditional practice of nsaka, or coming together, which was already prevalent in many parts of the country (Ibid.).

4.8 AGRICULTURAL DEVELOPMENT PROJECT
The International Fund for Agricultural Development (IFAD) Project was national in scope, but concentrated on highly prioritised area to the benefit of the majority of agricultural and fishery small-scale producers. In North Western, the Area Development
Project International Fund for Agricultural Development (IFAD) operated in three districts of the northern part of the province namely; Solwezi, Kasempa and Mwinilunga.

The project design target group represented medium and low income groups categorised as semi-commercial and subsistence farmers. According to NWPADP (1997) North Western Province is one of the poorest in Zambia and thus the project aimed at directing 14, 800 farm families (78,000 persons), including 13,450 living at or below the subsistence level, and 5,500 female headed households.

4.8.1 OBJECTIVES AND COMPONENTS
The IFAD project carried out its activities in phases I and II (NWPADP, 1997). The first part of the project was designed to establish an appropriate technological base through research and transfer of technology through an efficient extension service (ibid.). The project set out to raise the living standard of the rural poor, and generate self-sustaining economic growth in the project area. Phase I reinforced the efforts that had already started and thus included components such as:

1. Beneficiary mobilisation, including (i) group promotion; (ii) community development support; and (iii) the development fund;
2. Agricultural development, including: (i) research; (ii) agricultural extension; (iii) nutrition extension; and (iv) on farm trials and investment credit;
3. Small-scale rural enterprise development: feeder roads, national biological control programme; and project management.

4.8.2 EXPECTED EFFECTS AND ASSUMPTIONS
The target population was able to collaborate with the project through their own efforts such as acting in groups which the project had helped to form (Ibid.). A two-way process of media and direct communication with these groups was implemented to heighten awareness and participation. There was also emphasis on the quality of service and responsiveness to beneficiary demands. This in turn, was to enhance productivity and farm output through improved technology. It was also hoped that improved roads would
facilitate marketing access. Village and on-farm and off-farm enterprises were assisted, for example through the provision of facilities and hammer mills (NWPADP, 1997).
Table 12: Blocks/Camps and names of officers in areas researched

<table>
<thead>
<tr>
<th>BLOCK</th>
<th>BLOCK OFFICER</th>
<th>CAMP</th>
<th>CAMP OFFICER</th>
<th>DISTANCE FROM TOWN</th>
</tr>
</thead>
<tbody>
<tr>
<td>CENTRAL</td>
<td>Clement Muchindu</td>
<td>Zangamenu</td>
<td>Bruce Mhango</td>
<td>16 KM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kyafukuma East</td>
<td>Muchezo Nyirenda</td>
<td>30 KM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kyafukuma West</td>
<td>Erick Nyirenda</td>
<td>36 KM</td>
</tr>
<tr>
<td>MEHEBA</td>
<td>Jones Maseka</td>
<td>Meheba ‘A’</td>
<td>Erick Chikunga</td>
<td>55 KM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Meheba ‘B’</td>
<td>Febiano Hamachila</td>
<td>65 KM</td>
</tr>
<tr>
<td>MUTANDA</td>
<td>Wilson Hachoobe</td>
<td>Mutanda</td>
<td>Rosemary Hachoobe</td>
<td>35 KM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kayonge</td>
<td>Cosy Kipasa Nkwabilo</td>
<td>43 KM</td>
</tr>
<tr>
<td>ST FRANCIS</td>
<td>Yani Chaila</td>
<td>St. Francis</td>
<td>Chiponda Mwansa</td>
<td>66 KM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kapijimpanga</td>
<td>James Sakwiba</td>
<td>22 KM</td>
</tr>
</tbody>
</table>

Average kilometres travelled 40.9 KM

The furthest place researched was St. Francis, which was 66 kilometres away from the centre and the nearest was Zang’amenu which was 20 kilometres away.

The analyses on the findings are dealt in three parts. The first part deals with quantitative data obtained from the farmers. The next looks at the focus group discussion results. The last part, deals with the in-depth discussion results with the staff in the Ministry of Agriculture and Co-operatives.
PART A: FINDINGS FROM THE FARMERS

5.1.1 AGE STRUCTURE OF THE SAMPLE

This study revealed that 64.2 percent of the farmers involved with the Radio Farm Forum listening groups were men and 35.8 percent were women. The age composition was as follows:

Figure 5: Distribution of sample according age range

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 yrs +</td>
<td>23%</td>
</tr>
<tr>
<td>46-50 yrs</td>
<td>10%</td>
</tr>
<tr>
<td>41-45 yrs</td>
<td>22%</td>
</tr>
<tr>
<td>15-25 yrs</td>
<td>5%</td>
</tr>
<tr>
<td>26-30 yrs</td>
<td>13%</td>
</tr>
<tr>
<td>31-40 yrs</td>
<td>27%</td>
</tr>
</tbody>
</table>

The pie chart above shows that the largest number of respondents involved in farming comprises those in the age range of 31-40 (27 percent) and the least in the age range of 15-25 accounting for 5 percent. However, those from 41 to 50 years and over 50 years when added altogether account for 55 percent of the total. The other significant observation is that even those aged 50 years and above are very much involved in farming.
5.1.2 MARITAL STATUS

76.7 percent of the interviewees were married. 14.2 percent were single, 5 percent were widows and 4.2 percent were divorced.

5.1.3 LEVEL OF EDUCATION

Low literacy level in the community is a very big hindrance and barrier to adoption of innovations regardless of the media used. The study also investigated the literacy levels of the respondents as this has direct relationship with the way messages are received and practically interpreted, and exchanged among respondents.

Table 13: Educational level of respondents

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>VALID PERCENT</th>
<th>CUMMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occasionally</td>
<td>4</td>
<td>2.4</td>
<td>2.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Primary</td>
<td>59</td>
<td>49.2</td>
<td>49.2</td>
<td>49.2</td>
</tr>
<tr>
<td>Junior Secondary</td>
<td>28</td>
<td>23.3</td>
<td>23.3</td>
<td>72.5</td>
</tr>
<tr>
<td>Senior Secondary</td>
<td>15</td>
<td>12.5</td>
<td>12.5</td>
<td>85.0</td>
</tr>
<tr>
<td>College</td>
<td>4</td>
<td>3.3</td>
<td>3.3</td>
<td>88.3</td>
</tr>
<tr>
<td>None of the above</td>
<td>14</td>
<td>11.7</td>
<td>11.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

In terms of their level of education, table 14 above shows that at least 89.3 percent of the respondents had attained some level of education against 11.7 percent of those that had never been to school at all.

However, those with primary education were the majority accounting for 49.2 percent of the farmers in the sample. This indicates that there is some potential for the farmers to adopt innovations as long as these are simplified and disseminated in properly refined and clear ways.
5.1.4 IMPORTANCE OF RADIO FARM FORUM PROGRAMMES

The research revealed that almost all the farmers very much valued the importance of agricultural programmes broadcast on the radio. Furthermore, 94.2 percent of the people stated that they mostly accessed radio as their source of knowledge, while only 5.8 percent indicated that they had no exposure to the media forms due to lack of resources.

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>VALID PERCENT</th>
<th>CUMMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very frequently</td>
<td>51</td>
<td>42.5</td>
<td>42.5</td>
<td>42.5</td>
</tr>
<tr>
<td>Frequently</td>
<td>24</td>
<td>20.0</td>
<td>20.0</td>
<td>62.5</td>
</tr>
<tr>
<td>Often</td>
<td>15</td>
<td>12.5</td>
<td>12.5</td>
<td>75.0</td>
</tr>
<tr>
<td>Occasionally</td>
<td>29</td>
<td>24.2</td>
<td>24.2</td>
<td>99.2</td>
</tr>
<tr>
<td>Never at all</td>
<td>1</td>
<td>.8</td>
<td>.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The above table depicts that 42.5 percent of the respondents were very frequently exposed to the radio, followed by 24.2 percent of those who were occasionally exposed to radio. 20 percent were frequently exposed to radio content. 12.5 percent were often exposed and only 0.8 percent was never exposed to radio as their source of knowledge most of the time.

The research revealed that almost all the interviewees (97.5%) cited radio as the most accessible. Furthermore, 83.3 percent of the respondents stated that ZNBC Radio One was the most frequently listened to channel for agricultural programmes. ZNBC Radio Two ranked second with 14.2 percent of the listenership for agricultural programmes on the air. The Post paper had only 1.7 percent of the respondents reading it for agricultural material while Zambia Daily Mail paper was read by 0.8 percent.
5.1.5 COMMUNICATION MESSAGES MOST INTERESTED IN

It is visible that farmers are not the same in the way they carry out their farming operations because of the diversity of the activities they are involved in. As a result, even the way they respond to messages would be dependent on the kind of messages that are in line with the activities they are doing on the farm.

**Table 15: Subjects farmers were interested in**

<table>
<thead>
<tr>
<th>SUBJECTS</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>VALID PERCENT</th>
<th>CUMMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop production</td>
<td>80</td>
<td>66.7</td>
<td>66.7</td>
<td>66.7</td>
</tr>
<tr>
<td>Livestock</td>
<td>12</td>
<td>10.0</td>
<td>10.0</td>
<td>76.7</td>
</tr>
<tr>
<td>Fish farming</td>
<td>5</td>
<td>4.2</td>
<td>4.2</td>
<td>80.8</td>
</tr>
<tr>
<td>Beekeeping</td>
<td>3</td>
<td>2.5</td>
<td>2.5</td>
<td>83.3</td>
</tr>
<tr>
<td>Co-operative</td>
<td>20</td>
<td>16.7</td>
<td>16.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The table above depicts that the majority of the farmers were interested in crop production subjects aired on the radio accounting for 66.7 percent. Then 16.7 percent of them preferred co-operative subjects, while 10 percent were interested in livestock subjects. 4.2 percent liked fish farming subjects and 2.5 percent preferred bee-keeping subjects presented on the radio.

The study further revealed that 53.3 percent of the farmers confirmed that the subjects in programmes broadcast were of very good quality and relevant. 34.2 percent stated that the subjects were good. 11.7 percent stated that the subjects were satisfactory, while 0.8 percent stated that the subjects were poor.
<table>
<thead>
<tr>
<th>Age</th>
<th>Count</th>
<th>% within Age</th>
<th>% within Subjects farmers were most interested in</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-25</td>
<td>6</td>
<td>50.0%</td>
<td>0%</td>
<td>2.5%</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>68.8%</td>
<td>0%</td>
<td>9.2%</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>56.3%</td>
<td>0%</td>
<td>15.0%</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>56.3%</td>
<td>0%</td>
<td>15.0%</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>69.2%</td>
<td>0%</td>
<td>15.0%</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>69.2%</td>
<td>0%</td>
<td>15.0%</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>69.2%</td>
<td>0%</td>
<td>15.0%</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>69.2%</td>
<td>0%</td>
<td>15.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subjects farmers were most interested in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop production subjects</td>
</tr>
<tr>
<td>Livestock/Animal production</td>
</tr>
<tr>
<td>Fish farming subjects</td>
</tr>
<tr>
<td>Beekeeping subjects</td>
</tr>
<tr>
<td>Co-operative subjects</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>16</td>
</tr>
<tr>
<td>32</td>
</tr>
<tr>
<td>26</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>28</td>
</tr>
<tr>
<td>120</td>
</tr>
</tbody>
</table>

In the cross tabulation above, there is not much significant differences in percentage within those interested in crop production subjects in the ascending age ranges 26-30 and 46-50. The respondents aged 50 years and over were the most interested in crop production subjects with 26.3 percent, followed by age ranges 31-40 years and 41-45.
years with 22.5 percent each. Another observation from the data is that it is only the 31-40 years age group that has preference for all subjects.

Furthermore, as revealed in the same cross tabulation those aged 41-50 years were the most interested in the livestock subjects. Two age groups 31-40 years and 50 years and above combined total were the ones most interested in fish farming subjects. 66.7 percent in the age range of 15-25 years were the most interested in bee-keeping subjects.

In contrast, some of the age range groups registered no interest in some of the subjects broadcast on radio. For example, the 46-50 years had no interest in livestock and beekeeping subjects, the 26-30 years age range had no interest in fish farming and beekeeping subjects and the 15-25 years age range had no interest in the fish farming and co-operative subjects.

The language of communication in any part of the locality is of utmost importance for an effective information delivery to the intended clients. Often times, people pay little attention to a language they do not understand not because of hate but because of not getting what is being communicated.

The bar chart below displays the common languages used in Solwezi district and to what extent it is listened to in percentages.
In the bar chart above, Kaonde was the most used language in the communication processes in Solwezi with 55.8 percent, followed by Lunda 30.8 percent and Luvale 13.3 percent.

5.1.6 GROUP LISTERNERSHIP TO RADIO AND BENEFITS

The findings of this study revealed that 59.2 percent of the farmers did not belong to any radio listening group. 40.8 percent belonged to Radio Farm Forum groups. Besides, this study revealed that most of the groups existed only on paper (records) and were inactive.

The findings were that although most of the groups were inactive and non-functional. 86.7 percent indicated that they benefited a lot by listening to agricultural programmes as a group because: -

1. It was easy to learn new techniques or skills of farming as a group;
2. As a group they were able to spot and correct each one's wrong practices;
3. Encouraged each other through exchange of ideas, skills and knowledge and this meant that they learnt a lot and their yields increased;
4. It helped to uplift the thinking of the weak ones too; and
They were able to share, discuss and remind each other of any lapses in their farming practices.

<table>
<thead>
<tr>
<th>YEARS RANGE</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>VALID PERCENT</th>
<th>CUMMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 5 years</td>
<td>87</td>
<td>72.5</td>
<td>72.5</td>
<td>72.5</td>
</tr>
<tr>
<td>6 – 10 years</td>
<td>28</td>
<td>23.3</td>
<td>23.3</td>
<td>95.8</td>
</tr>
<tr>
<td>11 – 15 years</td>
<td>4</td>
<td>3.3</td>
<td>3.3</td>
<td>99.2</td>
</tr>
<tr>
<td>16 years plus</td>
<td>1</td>
<td>.8</td>
<td>.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The above table displays the length of time the respondents were in listening groups. The survey revealed that although most of the groups were inactive and not functioning, 72.5 percent indicated that they were in forums for a period of 1 to 5 years. 23.3 percent for 6 to 10 years, 3.3 percent for 11 to 15 years and 0.8 percent for 16 years and above.

5.1.7 CONTACTS WITH AGRICULTURAL EXTENSION OFFICER
This study also wanted to find out as to whether the farmers had any contacts with the Camp Extension Officers in discussing matters related to Radio Farm Forum activities. The results were that 21.7 percent of the farmers have had contacts with the Extension Officers. The 78.3 percent of the respondents reported that they had no contacts with the Extension Officers in the area over Radio Farm Forum activities.

5.1.8 SOURCES OF LATEST AGRICULTURAL INFORMATION
The choice on the type of media used to disseminate agricultural technical information plays a very big role in achieving positive result. This entails that the implementers of programmes should ensure that they have knowledge of the patterns of access to media by the farmers. For Solwezi, the forms of communication channel farmers use to source latest developments are as tabulated in the table below:
Table 18: Source of latest agricultural information

<table>
<thead>
<tr>
<th>MEDIA</th>
<th>FREQUENCY</th>
<th>PERCENT</th>
<th>VALID PERCENT</th>
<th>CUMMULATIVE PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspaper</td>
<td>1</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Extension Officer</td>
<td>31</td>
<td>25.8</td>
<td>25.8</td>
<td>26.7</td>
</tr>
<tr>
<td>Radio</td>
<td>84</td>
<td>70.0</td>
<td>70.0</td>
<td>96.7</td>
</tr>
<tr>
<td>Publications</td>
<td>1</td>
<td>0.8</td>
<td>0.8</td>
<td>97.5</td>
</tr>
<tr>
<td>Other people</td>
<td>3</td>
<td>2.5</td>
<td>2.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

In table 18 above, the study revealed that 70 percent of the farmers sourced and obtained their latest developments from the radio. 25.8 percent stated that they sourced from the Agricultural Extension Officers. While 2.5 percent who got from other people. The 0.8% obtained from the Newspapers and another 0.8 percent from publications such as magazines, brochures, leaflets etc.

5.1.9 FREQUENCY OF LISTENING TO THE RADIO

The study also sought to investigate on the time of the day farmers allocated more hours of listening to the radio. The results were that 53.3 percent of the farmers listened to the radio at night. 35 percent of the farmers listened to the radio in the afternoons and 7.5 percent listened in the mornings while 4.2 percent listened to the radio during mid-mornings.

5.1.10 PROBLEMS AFFECTING EFFECTIVE LISTENING TO RADIO

The study revealed that 66.7 percent of the farmers expressed that they experienced a lot of problems in as far as effective listening to the radio was concerned. 33.3 percent of the farmers indicated that they experienced no problems at all. Some of the major constraints experienced by the farmers were: -
1 Poor reception. Many complained about hissing of the radio and two stations being heard on one frequency. Farmers stated that it was usually worse with small radios.

2 Poor presentation and handling of agricultural subjects by presenters at times (e.g. repetition of topics, irrelevant inserts such as music etc).

3 Lack of group radios and high prices of batteries.

5.1.11 CONVENIENT TIME FOR AGRICULTURAL PROGRAMMES

In the investigation of the ideal time range farmers preferred listening to the radio for agricultural programmes presented on the radio, the interviewees’ responses were as reflected in the pie below.

![Figure 7: Time preference (in hours)](image)

The pie chart above shows that 51 percent of the respondents felt that the agricultural programmes should be broadcast from 19.00 to 21.00 hours, followed by 37 percent who suggested for 14.00-19.00 hours, 8 percent suggested for 05.00-09.00 hours, and 4 percent were for 09.00-14.00 hours time range.
5.1.12 MEDIA USAGE

In the modern world, there exists several and much faster communication means of media being used in conveying messages at interpersonal, groups of people and mass levels of communication. In this research study, the results were as follows:

<table>
<thead>
<tr>
<th>MEDIA</th>
<th>VERY FRENQUENT</th>
<th>FREQUENT</th>
<th>OFTEN</th>
<th>OCCASSIONALLY</th>
<th>NEVER</th>
<th>TOTAL (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio</td>
<td>66.7</td>
<td>20.0</td>
<td>1.7</td>
<td>4.2</td>
<td>7.5</td>
<td>100</td>
</tr>
<tr>
<td>Television</td>
<td>8.3</td>
<td>2.5</td>
<td>0.8</td>
<td>6.7</td>
<td>81.7</td>
<td>100</td>
</tr>
<tr>
<td>Newspapers</td>
<td>0.8</td>
<td>0</td>
<td>2.5</td>
<td>8.3</td>
<td>88.3</td>
<td>100</td>
</tr>
<tr>
<td>Magazines</td>
<td>0</td>
<td>13.3</td>
<td>0.8</td>
<td>15.8</td>
<td>70.0</td>
<td>100</td>
</tr>
<tr>
<td>Publications</td>
<td>0</td>
<td>14.2</td>
<td>1.7</td>
<td>15.0</td>
<td>69.2</td>
<td>100</td>
</tr>
<tr>
<td>Other people</td>
<td>20.8</td>
<td>15.8</td>
<td>21.7</td>
<td>23.3</td>
<td>18.3</td>
<td>100</td>
</tr>
</tbody>
</table>

In the table above, the results were that radio was the very frequently and frequently used and appreciated medium by the farmers 66.7 percent and 19.1 percent respectively. Television, newspapers, magazines and publications are the never used media forms.

5.1.13 TIME ALLOCATED TO AGRICULTURAL PROGRAMMES

The study also wanted to find out on what extent the respondents listened to agricultural programmes in the languages spoken in the area studied. This is as shown in the table below:

<table>
<thead>
<tr>
<th>LANGUAGE</th>
<th>VERY FREQUENT</th>
<th>FREQUENT</th>
<th>MODERATE</th>
<th>OCCASSIONALLY</th>
<th>NEVER</th>
<th>TOTAL (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaonde</td>
<td>64.2</td>
<td>21.7</td>
<td>5.8</td>
<td>6.7</td>
<td>1.7</td>
<td>100</td>
</tr>
<tr>
<td>Lunda</td>
<td>39.2</td>
<td>23.3</td>
<td>8.3</td>
<td>10.0</td>
<td>19.2</td>
<td>100</td>
</tr>
<tr>
<td>Luvale</td>
<td>17.5</td>
<td>15.8</td>
<td>10.0</td>
<td>12.5</td>
<td>44.2</td>
<td>100</td>
</tr>
<tr>
<td>English</td>
<td>10.8</td>
<td>5.0</td>
<td>5.8</td>
<td>11.7</td>
<td>66.7</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 19 above shows that Kaonde programmes were the very frequently listened to in Solwezi with 64.2 percent, Lunda as the frequently listened to with 23.3 percent and Luvale as the moderately listened to with 10 percent. English had the highest percentage score of 66.7 percent of the never listened to by the farmers.

PART II: FOCUS GROUP DISCUSSIONS

5.2.0 DISCUSSIONS

The researcher held eight focus group discussions with the farmers in the camps that were sampled for this study. The groups comprised of 8-10 people who were identified as key persons in the farming cycles with the help of either the Block or Camp Extension Officers. A guided interview was used and focussed on finding out on issues related to Radio Farm Forum and the main areas of concern centred on: -

1. Finding out if the discussants had any knowledge about the role Radio Farm Forum played in advancing agricultural development in the area;
2. Investigating on whether they had any forum and whether they use the forums to gain knowledge and skills by listening as a group;
3. To know their opinions on what should be done in order to ensure effective operations of the Radio Farm Forum;
4. To know what contributions they make towards the growth and existence of Radio Farm Forum in the community they live. If the groups were inactive or non-functional, then what plans do they have towards revamping the forum groups in their community;
5. Knowing how they use the information they acquire from the radio;
6. Getting their comments over the presentation and handling of the agricultural lessons taught on the radio; and
7. Find out on the constraints faced related to media message.
5.2.1 ROLE OF RADIO FARM FORUM
The researcher wanted to know whether the discussants knew the role of the Radio Farm Forum. In almost all the group discussions held, the discussants expressed a level of understanding as to why the forums were introduced as means of channelling agricultural lessons on the air. Others were of the suggestion that the same forum groups could be used in discussing some selected printed agricultural material that may have been distributed to them in the language they understood.

5.2.2 EXISTENCE OF RADIO FARM FORUM
The discussants testified that most of the Radio Farm Forum groups stopped operating about 6-7 years down the line. They attributed the failure of these groups to the lack of radios and batteries. They cited that the government used to supply free batteries and radios to the groups through the Department of National Agricultural Information Services. They also reported that encouragement from both the district and field officers in the district lacked.

5.2.3 OPINIONS ON EFFECTIVE OPERATIONS OF FORUM GROUPS
The discussants opinions were approached from two angles, the implementers and the farmers’ roles. They suggested that support and encouragement on the part of the agricultural officers is needed to strengthen farmers to be listening to Radio Farm Forum lessons broadcast on the radio.

Moreover, the discussants stated that the staff should help in educating, encouraging and rebuilding the farm forum groups. The Radio Farm Forum programmes should continue, but suggested that the camp officers should be making frequent visits to the forums. On the part of the farmers, the discussants pointed out that there was need for farmers to encourage each other to be listening to the programmes aired.
5.2.4 INFORMATION USAGE

Here the researcher focused on finding out on what the farmers used the messages they learnt from the radio for. Through these discussions, the farmers stated that they use the knowledge and skills they learned from the radio in the following ways:

1. Put into practice what was learnt or taught on the radio. Thus it assisted them to improve in their farming systems.

2. To inform and teach neighbours of the new developments learnt from the radio. The study justified this point in that 95.8 percent of the farmers stated that they shared the information learnt from the radio and only 4.2 percent did not share it with others.

3. The messages learnt through the radio assisted farmers to know about their knowledge deficits. Hence they were able to seek and consult various stakeholders involved in agriculture over topics not understood during broadcast.

5.2.5 HANDLING AND PRESENTATION OF LESSONS

The discussants felt that the time allocated to agricultural programmes was insufficient. The farmers cited that some of the irrelevant programmes like the ‘greetings time’ were given more air time than the very productive ones like agriculture. Farmers suggested that the national media should increase air time for agricultural programmes to at least a minimum of 30 minutes for radio broadcasts.

Furthermore, they also felt that agricultural programmes could be better learnt if broadcast during the time when farmers were resting like in the afternoon and night. Others were of the opinion that agricultural programmes should have their own “Radio station” to effectively handle a diversity of subjects in a broad way.

Moreover, the respondents felt that recorded information should often cover all aspects of agricultural subjects and obtained from various sources and areas. In addition, the main points of the subject presented on the air should always be emphasised and avoid use of difficulty or jargons such as scientific terminologies.
5.2.6 CONSTRAINTS FACED BY FARMERS
The discussants reported that the major constraint was that of poor reception and this ranked highest. As mentioned earlier, lack of radios and batteries was another problem and the least of the problems was the factor of poor presentations of programmes on the radio at times.

5.2.7 SOLUTIONS TO THE PROBLEMS
The study sought to find out what propositions farmers had to the problems they were experiencing in the area. The farmers stated that the issue of reception was beyond their capacity. However, they echoed that the national media (ZNBC) should improve on radio reception or extend the Frequency Modulation (FM) because reception on Short Wave (SW) frequency was bad. The respondents too, suggested that the supply of Wind Up radios could lessen the problem of buying batteries.

PART III: IN-DEPTH INTERVIEWS WITH AGRICULTURAL STAFF

5.3.0 DESCRIPTION
In-depth interviews were held with the Block and Camp Extension Officers. These are the key officers living closer to the people in terms of service delivery. Extension services here imply the professional communication intervention done by extension workers to obtain a voluntary change in the behaviour of farmers’ farming practices.

The Bock Extension Officer is an agricultural staff in charge of an agricultural block. A block is a partitioned area in a district that comprises a number of camps that fall under the jurisdiction of the Block Extension Officer. The Camp Extension Officer is an agricultural field worker in charge of an agricultural camp. A camp is also an agricultural partitioned area in a block administered by the Camp Extension Officer. This is the person who works in close contact with the farmer.

The interviews were also extended to the district and provincial staff involved in overseeing the overall professional communication interventions in the field. All these
officers were canvassed for their views of Radio Farm Forum as a communication strategy in agricultural extension.

5.3.1 VALUE IN RADIO FARM FORUM PROGRAMMES
All the members of staff in the Ministry of Agriculture interviewed reported that they appreciated the agricultural programmes aired on the radio. As a result, they felt motivated to try new management and techniques learnt from the media. The staff testified that the subjects taught were educative and acted as refresher courses to the professionally and technically trained. Others were of the opinion that it was a good way of communicating and training farmers.

The staff position at the time of the study was at 42 percent of the filled camps. This is posing a big threat to information delivery in camps without field officers. Therefore, those with radios were able to learn through radio broadcasts and gain latest information of farming.

5.3.2 EXISTENCE OF RADIO FORUMS
The staff accepted that there were Radio Farm Forum groups, but these forums were either inactive or only existed by name. They attributed the failure of the listening groups to lack of supply of group radios and batteries. They cited that the government used to give the farmers.

The staff expressed that the groups that depended on voluntary radios disbanded because they were discouraged. The owners of the radios could either not turn up for meetings or misused the group batteries. Eight percent of the staff testified that they often encouraged the farmers to form self-help listening groups, but could not succeed due to the reason above.
5.3.3 LISTENING TO AGRICULTURAL PROGRAMME BROADCASTS

Eight percent of the staff stated that they listened to both the English and at least one of the agricultural programmes in local languages broadcast on the radio. Then only twenty percent declared that they listened mainly to the English programmes.

The staff confirmed that the programmes broadcast on the radio were very good and relevant to both the staff and the farmers. The staff acknowledged that materials broadcast kept them abreast with the latest research findings and recommendations. Hence they were able to gain extra skills and knowledge relative to this modern world of ever changing technology.

In contrast, the staff expressed disappointment on the repetition of programmes. The airing of same topics over and over does make it boring to listen to. The people recorded in order to transmit agricultural programmes on the radio at times have lapses in their presentations. They are at times not able to articulate and explain well to make listeners get interested in the subjects communicated during radio broadcasts.

5.3.4 PRESENTATION AND HANDLING OF PROGRAMMES

The staff complained that the producers were not doing enough research on the subjects they presented. Subsequently, the broadcasters sometimes presented materials that were outdated. Sometimes the subjects presented were not timely to the season. Timeliness here implies that the topics taught should go with what the farmers were doing at a particular time of the year.

5.3.5 MAJOR CONSTRAINTS Faced BY FARMERS

The staff spelt out some of the major problems that they thought farmers were facing. These included the lack of batteries and radios. Poor reception and lack of supervision by both the district and camp staff was cited. They clearly reported that farmers lacked support from both the district and field staff in terms of supervision and recording of programmes.
Another thing reported was that the recording of programmes from progressing farmers was not evenly done by the responsible officers. The field officers blamed NAIS staff that they tended to concentrate in areas of their own choice, interest and preference most of the time.

5.3.6 USE OF SKILLS AND KNOWLEDGE

All the staff interviewed strongly supported that the farmers use the skills and knowledge learnt from the Radio Farm Forum broadcasts. They testified that farmers even consulted them to seek for more information over certain subjects they learned from the radio.

5.3.7 SUPERVISION VISITS OF RADIO FARM FORUM GROUPS

In this study, the research observed that the staff had their ‘visit schedules’ in place. One anomaly was that Radio Farm Forum programmes were not a priority in their visit schedules and plans of work. This was observed through records kept by the staff.
CHAPTER 6
DISCUSSION OF RESULTS

The overall revelation of this study is that although radio was the most frequently accessed media by farmers (66.7 percent), the involvement of farmers in RFF programmes as a group is minimal. This is evident from the findings that only 40.8 percent of the respondents at the time of the study belonged to radio listening groups. Out of the total membership 59.2 percent were no longer actively involved in radio listening groups.

However, farmers are eager to learn new options and solutions in their farming activities. Almost all the farmers valued the importance of Radio Farm Forum agricultural programmes. 94.2 percent of them accessed the radio as their main source of knowledge.

The cross-tabulation below shows the distribution of respondents on the basis of their age groups in relation to their educational levels.

<table>
<thead>
<tr>
<th>Table 21: Age * Educational level Crosstabulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>15-24</td>
</tr>
<tr>
<td>26-30</td>
</tr>
<tr>
<td>31-40</td>
</tr>
<tr>
<td>41-45</td>
</tr>
<tr>
<td>46-50</td>
</tr>
<tr>
<td>50 and above</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

The data in the above cross tabulation shows that at least the majority of the respondents interviewed are able to read and write. It is only 14 out of the total number of 120 interviewees that had never been to school. The few illiterate ones in the Radio Farm Forum can easily be helped by those that are able to read and write as long as they are actively involved in group listening to the radio. Therefore, the success of Radio Farm Forum here cannot be hindered on the basis of illiteracy levels.
6.1 IMPORTANCE OF AGRICULTURAL PROGRAMMES BROADCAST

The lesson learned from this study in Solwezi is that the respondents were more very frequently exposed to the radio messages (51 percent) than any other media. The 70 percent of the farmers expressed that they mostly accessed their knowledge and skills from the radio. 25.8 percent of the Extension Officers obtained their knowledge and skills from radio.

Abell (1968) stated that one of the most dominant and a widespread example of the use of educational radio is the Radio Farm Forum. As started in chapter 1, Radio Farm Forum started in Canada in 1941 as a radio discussion programme and served as a model which was adopted subsequently in a number of developing countries. After ten years, its sponsors, the Canadian Broadcasting Corporation (CBC), the Canadian Federation of Agriculture (CFA) and the Canadian Association for Adult Education (CAAE) invited UNESCO to cooperate in carrying out an evaluation of the program and its effectiveness as an instrument of adult education.

Radio has been employed and used extensively as an educational medium in developing countries. According to Long (1984) in India it was used for rural development. Long further states that educational radio has been employed within a wide variety of instructional design contexts. The Radio Farm Forum method has been credited with helping India more from food deficit to a surplus situation (Nwaerondu, 1987).

In some cases it is supported by the use of printed materials, by local discussion groups, and by regional study centres. It is sometimes designed so as to permit and encourage listener reaction and comment. Indeed, in some cases there is provision for the audience to raise questions and to receive feedback. In this study 86 percent of the interviewees said they never received feedback from agricultural broadcasters on questions and comments they raised. This indicates that the two-way communication process is broken. Such a problem should never arise if the workers do their work properly.

Taking a comparison on the level of education and importance of the programmes, the results revealed that 94.2 percent of the people in the sample attach great importance to
the Radio Farm Forum programmes that were broadcast on the radio. This explanation is clearly shown in the cross tabulation hereunder.

| Educational level * Importance of Radio Farm Forum programmes Crosstabulation |
|-------------------------------------------------------|-----------------------|
|                                                      | Importance of Radio Farm Forum programmes |
|                                                      | Yes  | No  | Total |
| **Educational level**                                 |      |     |       |
| Primary                                              |      |     |       |
| Count                                                | 56   | 3   | 59    |
| % within Educational level                           | 94.9%| 5.1%| 100.0%|
| % within Importance of Radio Farm Forum programmes   | 49.6%| 42.9%| 49.2% |
| % of Total                                           | 46.7%| 2.5%| 49.2% |
| Junior Secondary                                     |      |     |       |
| Count                                                | 28   | 0   | 28    |
| % within Educational level                           | 100.0%| .0%| 100.0%|
| % within Importance of Radio Farm Forum programmes   | 24.8%| .0%| 23.3% |
| % of Total                                           | 23.3%| .0%| 23.3% |
| Senior Secondary                                     |      |     |       |
| Count                                                | 14   | 1   | 15    |
| % within Educational level                           | 93.3%| 6.7%| 100.0%|
| % within Importance of Radio Farm Forum programmes   | 12.4%| 14.3%| 12.5% |
| % of Total                                           | 11.7%| .8%| 12.5% |
| College                                              |      |     |       |
| Count                                                | 4    | 0   | 4     |
| % within Educational level                           | 100.0%| .0%| 100.0%|
| % within Importance of Radio Farm Forum programmes   | 3.5%| .0%| 3.3% |
| % of Total                                           | 3.3%| .0%| 3.3% |
| None of the above                                     |      |     |       |
| Count                                                | 11   | 3   | 14    |
| % within Educational level                           | 78.6%| 21.4%| 100.0%|
| % within Importance of Radio Farm Forum programmes   | 9.7%| 42.9%| 11.7% |
| % of Total                                           | 9.2%| 2.5%| 11.7% |
| **Total**                                            |      |     |       |
| Count                                                | 113  | 7   | 120   |
| % within Educational level                           | 94.2%| 5.8%| 100.0%|
| % within Importance of Radio Farm Forum programmes   | 100.0%| 100.0%| 100.0%|
| % of Total                                           | 94.2%| 5.8%| 100.0%|

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The above cross-tabulation above displays data of the findings based on the respondents’ answers that the value of the programmes was very much recognised at all the levels of education.

Thus this study reveals that the educational levels of listeners range from those that had not been to school to above twelve years of schooling (Grade 12), with the highest concentration at seven years of schooling (Grade 7). This is a result of the fact that a small number of pupils are selected for Grade 8 and those who fail to find places in Grade 8 start working with parents or relatives in the fields until they grow up to be small-scale farmers. From the time they leave school up to the time they become farmers, there is very little literature to read. Thus this being the case, the idea of using radio as a means of communication to small-scale farmers, becomes critical. In addition to this, some of the farmers have not been able to go to school because they come from poor families or from families that do not value education.

Nyirenda (1981) asserts that the radio programmes for rural forums are concerned with the problems of agriculture, rural development, rural education, innovations, self-government and literacy. In this research study, it was found that forum members learned much more about the topics under discussion than those that did not belong to or had moved away from the radio listening groups.

In some of the discussions held with farmers that belonged to groups, they were able to recall even recently presented topics and talk about the subject(s) presented with confidence. Radio Farm Forum is, therefore, an agent for transmission of knowledge and has proved to be a success beyond expectation even here in the area of study. This success is confirmed for the whole of Zambia by Bobbili (Bobbili, 1997). This is because the forum members in the group discussions confirmed that they exchanged ideas on the topics presented after listening to the broadcast and discussing it.

Communication for development is fundamental to the success or failure of community development and capacity-building initiatives. In this study, on the one hand farmers expressed that the extension farmer contact was lacking (78.3 percent), but on the other
hand they said they were gaining skills through the radio. This situation indicates that the flow of information from the agricultural extension staff to farmers was inadequate. Radio provided a welcome remedy in this situation.

According to Adhikarya (1994) extension services have been criticised both for failing to reach the majority of farmers in many developing countries and to communicate successfully with those that fall within range. Radio offers both the reach and the relevance to its listeners and more than any other mass communication medium. Radio speaks in the language and with the accent of its community or nation-state. However, there is need to sensitise people to take keen interest in listening to the radio not only in group meetings, but also even as individuals at home or in the villages they lived. There is also need to jack up the extension services because they are supposed to explain and concretise what is learnt on radio.

It should be noted that communication has the potential to play an empowering role, enable people and societies to take control of their lives and set their own economic, political, and social agendas (Ibid.). Information is power, and for those who are traditionally silent or silenced, communication can be a potent tool for expressing needs and creating a voice for the people to realise their own goals and desires (Ibid.). Radio broadcasters have a mandate to meet the broadcasting needs of the communities to whom they broadcast. Part of this mandate includes providing relevant information that enables audiences to strengthen their agricultural capacities, augment their livelihoods, and achieve greater community engagement (Ibid.).

Research findings can easily be channelled through the radio. Therefore, agricultural broadcasters and researchers should constantly interact and share latest findings and recommendations of scholars. According to Sibalwa (1997) the experience of national and international research institutions demonstrates some of the benefits of linking research with radio, especially for the rural populace:
1. Radio can disseminate research findings across long distances, in languages familiar to the listening public.
2. Radio can reach a wide range of stakeholders including farmers, nomadic people, extension workers, community groups and NGOs, schools, local officials, and rural businesses.
3. Radio transmits valuable information about where research projects are used and where inputs/services can be obtained.
4. Radio can relay critical information such as disasters, weather, and market news.
5. Radio allows researchers to share information about research projects and activities.
6. Radio allows communities to share feedback about research products and activities.

6.2 PROGRAMME RELEVANCE
The Members of the Radio Farm Forum were asked to state whether the content of the programme was relevant. Arising from the findings, 53.3 percent of the respondents rated the content as very good and relevant and 34.2 percent stated that they were good.

The Radio farm Forum members said that the content of the Radio Farm Forum programmes was suitable for them because they learned topics that were applicable to their real life situations. For example, they learnt a lot of ideas about assorted crops, vegetable production, livestock and other subjects related to farming.

In one focus group discussion in the northern part of Meheba (referred to as the Zambian community) farmers testified that they learnt a lot of knowledge and skills from Radio Farm Forum programmes without the help of the Agricultural Extension Officer. Others said that the content was very relevant because they learnt a lot about the prevention and control of Newcastle disease which killed their local birds, and how to apply conservation farming practices. The cross tabulation below shows the subjects the respondents were most interested in listening to.
The above tabulation shows that there are differences in farmers' preferences for subjects. Some preferred crop production, others livestock production and yet others wanted fish farming subjects broadcast on the radio. The difference of more than half in the composition of male and female in the radio listening groups is of great concern. This is pointing to the fact that there is gender imbalance in the Radio Farm Forum groups.

Therefore, it is necessary to get more and more women in Radio Farm Forum listening groups to broaden a cross sectional message delivery to the people in the community. The centrality of women's contributions to national development underlines the importance of integrating gender concerns into all development interventions.

According to Kelly (1996) the national goal of accelerated development cannot be attained without special attention to the needs of women. Women play a predominant role in producing, storing, processing and preparing food for the family. According to Food and Agricultural Organisation report, 60-80 percent of food production in developing countries is by women. Their work in food preparation involves them in choosing foods available on the farm or in the market, then cooking it and apportioning it for the family members.
Women’s access to training and extension is limited by a number of factors. Among these is their lack of access to membership in rural organisations that channel or provide training opportunities. Other limiting factors include: gender neutral or gender blind agriculture research that gives inadequate attention to women farmers’ needs.

Safilios (1985) asserts that it is unfortunate that rural women who are most visible to policy makers and development planners in their domestic roles are still relatively invisible in their productive roles, as food and cash crop producers, owners and caretakers of livestock. It is in this vein that the communication strategy planners of the Radio Farm Forum should have access to data on the prevalence of women as partners in making the forums viable learning units. Such data can encourage allocating services and resources to women farmers, who currently carry out much of the agricultural activities learnt from the various media, especially the radio.

Women’s activities in rural areas are very often physically demanding, dirty, time consuming and monotonous (Ibid.). Rural women’s work is characterised by long and strenuous days, and there are very few relevant communication media technologies to ease the drudgery (Safilios, 1985). Even communication-sensitive specialists have marginalised women’s value in the impact of programmes, information utility and likely contribution to the sustenance of the Radio Farm Forum groups.

Farmers are usually committed with a lot of work on daily basis, and this can be a determinant on the ideal time most suitable for them to listen to the radio. This situation is worse for women whose burdens are more extensive than those for men.
This study discovered that 65.1 percent of the women interviewed preferred to listen to agricultural programmes in the period 19.00 – 21.00 hours seconded by 32.8 percent of the women in favour of the period 14.00 – 19.00 hours. In contrast, in terms of count and percent the male respondents were in favour period from 14.00 – 19.00 hours. The total picture is that the majority were for 19.00-21.00 hours (51.7 percent), seconded by 36.7 percent in preference of 14.00-19.00 hours. Therefore, this is a reminder to agricultural radio broadcasters that educational programmes are best scheduled in the afternoon when they meet in groups and part of night for many farmers to listen to the messages. However, the fact that women are not predisposed generally to afternoon listening, should not go without comment.

6.3 BARRIERS TO EFFECTIVE LISTENING

The strength of Radio Farm Forum programmes as an extension tool lies in its ability to reach the illiterate farmers and provide them with information relating to all aspects of agricultural production in a language they understand. In one hand, this does not mean simply reading technical information over the airwaves in local languages, having farmers sharing their problems and achievements in the community and providing relevant information in the local agro-ecological and cultural context. On the other hand, the quality in terms of reception plays a very big role in creating interest in the listeners to pay maximum attention to the programmes broadcast.
In this study, 65.8 percent of the respondents and discussants revealed that there was very poor reception, especially in areas located far away from the town. In some parts of Solwezi, radio reception is so poor that some people tend to tune their radios to neighbouring or other countries. This means that they miss a lot of agricultural information broadcast for them.

![Figure 8: Problems affecting farmers in regard to listening to radio expressed in percentage](image)

The other problem included the lack of batteries and radios (28.4 percent) and to a lesser extent poor presentation (only 5.8 percent) at times by the broadcasters as shown in the above bar graph. Radio batteries are not always available in rural areas and it is not easy to have radios repaired when they become malfunctioned. Poor presentation here is a situation where broadcasters do not follow the sequential presentation of the subject or use jargons and scientific terms or spending time on irrelevant inserts.

Notable on the part of the responsible department (NAIS) in the Ministry of Agriculture and Co-operatives is that the programme has suffered from a lack of adequate funding from the government at all levels of the hierarchy and will be hard to sustain. There is no indication that there are any innovative means developed to support the programme. For instance, there is lack of tape recorders and as one consequence of which proceedings of the Radio Farm Forum groups are no longer being recorded frequently.
Another problem, which threatens the sustainability of the programme relates to the restructuring of the civil service (Sibalwa, 1994). The Ministry of Agriculture and Cooperatives was still undergoing restructuring. Some agricultural extension and information Officers were at the time of writing worried of reshuffles because they lacked the necessary qualifications. Then those with relevant qualifications were not appointed and confirmed to positions applied for by the Public Service Commission causing morale dampening.

It was important to find out what members thought about the length of the Radio Farm Forum programmes. 64.4 per cent of the respondents were happy with the length of the programmes, while 35.6 per cent of the respondents felt that the programmes were interesting but too short and would have liked longer programmes.

Unfortunately, there is no involvement of the farmers in the designing or planning of the messages. According to Sibalwa (2000) to many the radio has become their faithful teacher as it becomes more and more difficult for the Ministry of Agriculture and Cooperatives to personally reach farmers. The use of radio seems to provide an answer, but there is no record of the nature and involvement of the target population or local communities in the design of the programmes. This suggests that the programmes were designed with negligible or no input at all from the local communities or beneficiaries of the programme. Perhaps with the coming of the Community Radio, it will become increasingly possible to have farmers more involved. Indeed, there is need to adopt the participatory approach, that is, a more learner centred educational system.

6.4 SOLUTIONS TO PROBLEMS

With regard to the problems of poor reception, poor presentation and lack of batteries and group radios, the farmers said that they were not able to deal with the issue of reception as it was beyond their capability. They urged the national media to improve on radio reception in rural areas.
Figure 9: Proposed solutions to Problems faced

As asked to find out as to whether the respondents and discussants had any proposals for dealing with the problems they faced they had no specific answers. As shown in the line graph above, 75 percent of the farmers suggested that ZNBC should improve radio reception in remote areas. 22.5 percent suggested the provision of batteries and radios to the groups by the government. 2.5 percent asked for an extension of the Frequency Modulation (FM) band radius since it is very clear. This is a responsibility of the media house(s) to sort out in order to keep the rest of the rural population abreast with developments meant for them with less difficulty. The establishment of community media as has happened with Solwezi Friends Committed to Caring (FCC) radio station is partially addressing the need.

6.5 FREQUENCY OF LISTENING TO THE RADIO
The survey also showed that members of the Radio Farm Forum attend forum meetings mostly after the harvest period. However, many would still meet and listen to the programme as long as they have batteries and good reception. Broadcasters are urged to note the preferences of farmers, particularly women, with regard to times when they tune in to radio. (See page 89).
6.6 APPLICATION OF KNOWLEDGE AND SKILLS

Members of the Radio Farm Forum interviewed in the study revealed that they apply new knowledge and skills in various farming practices such as growing of assorted crops, crop rotation and conservation farming. During interviews and focus group discussions small-scale farmers in all the areas indicated that they tried to practice improved farming methods through ideas from the Radio Farm Forum programmes.
CHAPTER 7
CONCLUSION AND RECOMMENDATIONS

7.1 CONCLUSION
The Radio Farm Forum fits well into the process of providing two-way communication between the farmers and the government via the Ministry of Agriculture and Co-operatives. Through the programme, farmers become receptive to new ideas. This is useful for the exchange of ideas and information between farmers and agricultural change agents.

Arising from the findings and discussions it can be concluded that although the farmers have the zeal to learn, this desire to listen in groups is slowly losing ground due to a number of reasons such as poor reception, lack of batteries and radios, and lack of motivation by the change agents. Farmers learn a lot when they meet in groups by sharing ideas and knowledge learned from the Radio Farm Forum programmes. Everything possible should be done to strengthen the Radio Farm Forum programmes as a complementary wing to the extension system.

The Radio Farm Forum is expected to play a permanent role in Zambia’s socio-economic development system. This is because it was that Zambia could not depend on copper exports forever and that sustainable economic development lay in increased productivity in agriculture.

The Radio Farm Forum has played a very important role in complementing the efforts of the extension staff since its reach is not affected by distance, quality of roads or literacy levels. The success of the programme, as discovered in this study, portrays an image that there is very little progress. The radio producers and the extension staff are not constantly in touch with the farming communities whom they serve.

The government through the Ministry of Agriculture and Co-operatives should take firm measures to seize Radio Farm Forum groups from drowning. Hereunder are some the recommendations that can be applied to bring the situation to normal.
7.2 RECOMMENDATIONS

7.2.1 CHANGING THE PEOPLE’S MIND SET

One of the factors leading to the decline in Radio Farm Forum groupings among farmers is the government’s withdrawal of the support to farmers with radios and batteries freely. This has dampened the farmers’ active participation.

Recommendation

The government through the Ministry of Agriculture and Co-operatives should sensitize people to realize that with reduced government revenue, the time for free supply of inputs is no more. Farmers should be told that the government in a way still supports them by paying for the air time on the national media (ZNBC) in order to convey the agricultural technical information for their benefits. Thus it is incumbent upon them to realize that they are the beneficiaries of the Radio Farm Forum programmes. The idea is to change the people’s mentality of saying the government should provide for them always. Time is now that they should learn that they have a part to play as well.

7.2.2 DEMONSTRATION PLOTS

In this study, 85 percent of the farmers testified that they applied the knowledge and skills learnt from the radio. This showed that it is possible for them to apply the same skills as a group in order to reinforce group solidarity.

Recommendation

Radio Farm Forum demonstration plots should be initiated where farmers can apply what they learn from the radio. These demonstration plots in turn become learning units, and field days can be held to explain what the farmers did with the knowledge obtained from the radio to other farmers and the audience.

In another dimension, the produce from the plots can be a source of income, which can alleviate problems of shortage of batteries for their group radios or even use the income to buy radio(s) for the group. Indeed, such plots might also act as an incentive for the growth of co-operatives.
7.2.3 COMMUNICATION AND EFFECTIVE RECEPTION

Communication here refers to the process of exchanging of the agricultural technical ideas, information and opinions through speech, writing, pictures, and other symbols. It is a sharing process where the radio (widely accessed) is used to share the messages with the farmers in order to influence the farmers’ thoughts and actions, and vice versa.

In this study, poor reception ranked highest among the list of problems revealed by the respondents (65.8 percent) in the sample. This indicates that there is still a very big problem in terms of the way farmers receive their messages from the radio.

Recommendation

Zambia National Broadcasting Corporation (ZNBC) should ensure they improve radio reception, especially in the rural areas of not only Solwezi but even country wide. The need is there because it is in these places where the majority of the peasant farmers live. Clear reception by the farmers’ radios can add a lot of value to the growth of the agriculture industry because of its wide coverage. Radio is a common medium used because it is affordable, can reach the large farming population that the extension officers simply do not have the human resource and sometimes means of transportation to reach. It also does not require the listeners to be literate

7.2.4 TRANSFORMATION OF GROUPS

Since inception of the Radio Farm Forum concept in Zambia in 1966, most of the groups have not grown in sustainable way.

Recommendation

The government through the Ministry of Agriculture and Co-operatives should aim to incorporate the active Radio Farm Forum groups into more viable and sustainable groupings such as co-operative societies without necessarily destroying the idea of group listening.
7.2.5 FUNDING

The Department of National Agricultural Information Services (NAIS) is responsible for the Radio Farm Forum groups. NAIS links the groups to various information sources from all other sections under the Ministry of Agriculture and Co-operatives and other agro-related industries by communicating the messages through radio, print materials and even providing agricultural news for the farmers.

The department, therefore, caters across all the sectors within the ministry. Now the sector has suffered from inadequate funding for a long time and this has led to serious shortages of broadcasting, press and publication equipment. Related to this is that staff morale is dampened because many of them are either not appointed or confirmed to positions within NAIS. The majority are serving in acting capacities.

Recommendations

The government should seriously consider increasing funding to the Department of National Agricultural Information Service to enable it operate efficiently and effectively. In addition, the appointment and confirmation of staff by the Public Service Commission should be done promptly to boost staff morale in the department.

7.2.6 AGRICULTURE LESSONS ON COMMUNITY RADIO

The only local community radio station known as “Friends Committed to Caring” based in Solwezi town had at the time of writing few agricultural programmes. Much of the time was spent on playing music. There is also little contact between the staff from the Ministry of Agriculture and Co-operatives and staff from the radio station.

Recommendation

The Ministry of Agriculture should collaborate and liaise with the available community radio station (Solwezi FCC) to include more agricultural programmes that can be channelled to the farmers within the transmission radius of the station. The staff from the ministry should equally patronise the station by way of providing the required agricultural information to broadcast on the air to benefit the farmers. Such a station
provides the ideal situation for rapid feedback from farmers since it is located in the district.

7.2.7 ALTERNATIVE TO PROVISION OF BATTERIES
Lack of batteries is another issue that is affecting farmers, its either they are unavailable or expensive for the ordinary peasant farmers.

Recommendation
The government through the Ministry of Agriculture and Co-operatives should provide or supply battery-less (or Wind Up Radios) or ones that are solar-charged to the farmers freely or at a subsidised cost.

7.2.8 SUPERVISION VISITS
In this study, it was found that 78.3 percent of the respondents never had any contacts with their local field extension officers who would have visited them to discuss matters related to Radio Farm Forum activities.

Recommendation
The Extension officers at all levels should refrain from putting Radio Farm Forum activities as a second class activity, but treat it as important as any other activity within the ministry. Therefore, it is important that extension officers include the activity in their visit schedules.

7.2.9 TIME
The time programmes are delivered matters since the type of client dealt with in this is one that is pre-occupied with a lot of activities in a given day. In this study, it came out that the afternoon and night times were preferred by the respondents rather than the morning hours. The importance of the right time to broadcast determines on how many people listen to the programme and even the frequency of listening to the Radio Farm Forum.
Recommendations
All Radio Farm Forum programmes, especially those in the local languages should be broadcast in the afternoon and early hours of the night so as to capture a large audience. The radio broadcasts should take in a variety of subjects and topics so as to meet the desires of the variety of individual interests, which are dependent on the activities farmers are involved in. NAIS is urged to have repeat broadcasts for all the programmes of a particular week.

7.2.10 TRAINING
The farmers no longer received trainings in relation to the running of the Radio Farm Forum groups and other subjects.

Recommendation
More mobile and less residential courses should be conducted to equip the members of the Radio Farm Forum groups with the basic skills on management of the group, record-keeping and many other topics as may be deemed fit. In the same vein the trainings could be used to mobilise, form, revamp inactive groups, strengthen and encourage farmers to effectively make use of the radio as a sufficient source of knowledge in the farming cycles.

7.2.11 WOMEN INVOLVEMENT IN FORUMS
The study revealed that there was gender imbalance in the Radio Farm Forum groups whereby only 35.8 percent of the respondents were women.

Recommendation:
It is necessary to involve more women in these Radio Farm Forum groups. As shown earlier 60-80 percent of the agricultural production is by women. Surely, forums should be encouraged to do more for these productive citizens.
8.0 REFERENCES


Encyclopaedia Britannica Article. 2007. ([http://www.britannica.com/ebi/article](http://www.britannica.com/ebi/article)).


## APPENDICES

Appendix ‘1’: WORK PLAN FOR THE RESEARCH STUDY

<table>
<thead>
<tr>
<th>Activity</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>A</td>
</tr>
<tr>
<td>Problem identification &amp; topic formulation</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Literature review</td>
<td></td>
<td>*</td>
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<td>Consultations with Coordinator</td>
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</tr>
<tr>
<td>Corrections to proposal &amp; amendments/additions</td>
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<tr>
<td>Pre-testing questionnaires</td>
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<td></td>
</tr>
<tr>
<td>Replication of questionnaires &amp; interview guides</td>
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<td></td>
</tr>
<tr>
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<tr>
<td>Report writing &amp; typing</td>
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<tr>
<td>Consultations with the Supervision over final report</td>
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<td></td>
</tr>
<tr>
<td>Final report production &amp; binding</td>
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<tr>
<td>Report submission</td>
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</tbody>
</table>

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Appendix ‘2’: QUESTIONNAIRE FOR FARMERS

Dear respondent,

You were randomly sampled to take part in this research study focused on Radio Farm Forum as a communication strategy in agricultural extension. Your contributions in answering the questions in this paper will go a long way in trying to find viable ways of making radio forums as effective channels of exchanging ideas, knowledge and skills in farming practices. You are, therefore, kindly being asked to answer each question truthfully and honestly and your answers will be treated confidentially. You are not suppose to write your name anywhere on this paper.

Specific instruction:
Tick [ ] in the appropriate bracket(s) provided for you next to the answer of your choice, and/or write in the space underlined where your opinion or comment is required.

**SECTION A: BACKGROUND**

1. Sex  
   1. Male [ ]  
   2. Female [ ]

2. Age  
   1. 15 – 20 years [ ]  
   2. 26 – 30 years [ ]  
   3. 31 - 40 years [ ]  
   4. 41 – 45 years [ ]  
   5. 46 – 50 years [ ]  
   6. 50 ears and above [ ]

3. Marital status  
   1. Married [ ]  
   2. Single [ ]  
   3. Divorced [ ]  
   4. Widow [ ]  
   5. Widower [ ]  
   6. On separation [ ]

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4 Educational level  1 Primary      [   ]
2 junior secondary [   ]
3 Senior secondary [   ]
4 College         [   ]
5 University      [   ]
6 None of the above [   ]

SECTION B: IMPORTANCE OF RADIO FARM FORUM PROGRAMMES

5 Do you find any value in agricultural programmes broadcast on radio?
   1 Yes  [   ]                      2. No  [   ]
(If ‘yes’ go to question 7)          (If ‘No’ go to question 6)

6 What don’t you like about the agricultural programmes broadcast on radio?

7 Do you listen to the Radio?
   1 Yes  [   ]                      2. No  [   ]

8 Which of the following do you have access to most? (Tick only one)
   1 Radio  [   ]                      2. Television  [   ]
   3 Newspapers  [   ]                4 Internet  [   ]
   5 Agric Publications  [   ]        6 None  [   ]

9 How often are you exposed to the medium of your choice in question 8 in getting agricultural knowledge?
   1 Very frequently  [   ]
   2 Frequently  [   ]
   3 Often  [   ]
   4 Occasionally  [   ]
   5 Never at all  [   ]
In your opinion, which media institute/station you opted/listen to talks or cover more of the agricultural programmes?

1. ZNBC Radio I [     ]
2. ZNBC Radio II [     ]
3. Solwezi FCC [     ]
4. Times of Zambia [     ]
5. Zambia Daily Mail [     ]
6. The Post Paper [     ]
7. Any other: ___________________________________ (Indicate)

SECTION C: COMMUNICATION MESSAGES FARMERS ARE MOST INTERESTED IN.

Which category of the agricultural programmes broadcast on radio are you most interested in? (Tick only one from the list)

1. Crop production subjects [     ]
2. Animal/livestock subjects [     ]
3. Fish farming subjects [     ]
4. Beekeeping subjects [     ]
5. Co-operative subjects [     ]
6. Any other, specify: ___________________________________

What is your rating on the quality and relevance of the agricultural messages aired on radio?

1. Very good [     ]
2. Good [     ]
3. Satisfactory [     ]
4. Poor [     ]
5. Not relevant at all [     ]
What language of communication do you use most of the time in your area?

1. Kaonde [ ]
2. Lunda [ ]
3. Luvale [ ]
4. Luchazi [ ]
5. Chokwe [ ]
6. Bemba [ ]
7. Any other, specify: ________________________________

SECTION D: GROUP PARTICIPATION

Do you belong to a Radio Farm Forum listening group in your area?

1. Yes [ ]
2. No [ ]
(If ‘yes’ go to question 15) (If ‘No’ go to question 16)

For how long have you been a member of the Radio Farm Forum Group?

1. 1-5 years [ ]
2. 6-10 years [ ]
3. 11-15 years [ ]
4. 16 years and above [ ]

Do you find it helpful and beneficial to listen to agricultural programmes broadcast on radio as a group?

1. Yes [ ]
2. No [ ]
(If ‘No’ go to question 18)

In which way has listening to agricultural programmes as a group helped you?

1. Learnt new skills [ ]
2. Correct each other [ ]
3. Uplifts weak members [ ]
18. Do you have contacts with your area agricultural extension officer?
1. Yes [ ] 2. No [ ]

19. Which of the listed communication delivery channels do you think help you most to access latest technical agricultural information or developments quickly?
1. Newspapers [ ]
2. Agricultural Extension Officer [ ]
3. Radio [ ]
4. Agricultural publications/magazines etc [ ]
5. Internet [ ]
6. Other people [ ]
7. None of the above [ ]

20. Do you get any feedback on questions you raise as a group from the radio producers of the Ministry of Agriculture and Co-operatives?
1. Yes [ ] 2. No [ ]

SECTION E: FREQUENCY (TIME) AND PROBLEMS OF ACCESS TO MEDIA MESSAGES

21. What time of the day do you spend more hours listening to the radio?
1. Morning [ ]
2. Mid morning [ ]
3. Afternoon [ ]
4. Night [ ]
5. None of the above [ ]

22. Which time range do you propose is more ideal and appropriate for agricultural radio programmes broadcast?
1. 05.00 – 09.00 hours [ ]
2. 09.00 - 14.00 hours [ ]
3. 14.00 – 19.00 hours [ ]
4. 19.00 – 21.00 hours [ ]
23. Do you experience any problems as regards your effective listening to agricultural programmes broadcast on radio?
   1. Yes [ ] 2. No [ ]

24. If your answer in question 23 is 'YES', which are those problems you experience in your Radio Farm Forum group as regards effective listening?
   1. Poor reception [ ]
   2. Poor presentations [ ]
   3. No radios/batteries [ ]

25. What do you think or suggest should be done to alleviate the problem(s) you have stated in question 24?
   1. Improve reception [ ]
   2. Extend FM frequency [ ]
   3. Government to provide batteries/radios [ ]
   4. Any other: ..............................................

26. How much listening is given to agricultural programmes broadcast in the following languages?

<table>
<thead>
<tr>
<th>Language</th>
<th>Very frequent</th>
<th>Frequent</th>
<th>Moderate</th>
<th>Occasionally</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>26. Kaonde</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27. Lunda</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28. Luvale</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. English</td>
<td></td>
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</tbody>
</table>
SECTION F: USES AND GRATIFICATION OF INFORMATION

How much use of the following media in acquiring agricultural technical information

<table>
<thead>
<tr>
<th>Channel</th>
<th>Very frequent</th>
<th>Frequent</th>
<th>Often</th>
<th>Occasionally</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>30. Radio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31. Television</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. Newspapers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. Magazines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>34. Publications</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>35. Other people</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

36 What do you use the information you get from the radio for? ____________________________

_____________________________________________________

37 Do you share the agricultural ideas and knowledge you obtain from the radio with other people who are non-members of RFF in the community you live?
1. Yes [ ] 2. No [ ]

38 Any general comments:

_____________________________________________________

_____________________________________________________

THANK YOU VERY MUCH FOR RESPONDING
Appendix ‘3’: INTERVIEW GUIDE USED IN FOCUSED GROUP AND IN-DEPTH DISCUSSIONS:

1.0.0 Demographic, psychographic and geographical information:

1.1.0 Demographic information
1.1.1 Age composition or distribution, gender distribution in Radio Farm Forum
1.1.2 Residence(s), type of houses available in the area.
1.1.3 Language commonly used in the community.

1.2.0 Psychographics
1.2.1 Cultural values, beliefs and attitudes of the people in the community.
1.2.2 Radio stations accessed by the community in the area of study.
1.2.3 Peoples’ general reaction and response to the media.

1.3.0 Geographical characteristics
1.3.1 Water situation, number and names of rivers, streams, lakes; rainfall patterns etc
1.3.2 Infrastructure: road network, communication systems, marketing structures or storage sheds.
1.3.3 Physical features e.g. mountains or hills, general landscape and soil types.

1.4.0 Historical characteristics-
1.4.1 Nature and make up of the existing audience.
1.4.2 Family types and composition, average number of children, dependants etc.
1.4.3 Ethnic practices; other occupations other than agriculture.
1.4.4 Traditional ceremonies, other important celebrations etc

2.0 Interests, needs, concerns of the audience
2.1 Agricultural programmes that interest farmers mostly in the area of study
2.2 Other radio programmes that they mostly listen to on the radio.
2.3 Farmers’ expectations of how programmes should be run on radio.
2.4 Sufficiency of time of radio broadcasts, how about timing in a day.
2.5 How do they rate their experiences with the information they get from the radio?
2.6 What they use the broadcast information for. Any other sources of information.
2.7 Agricultural radio programmes most liked and preferred.
2.8 Suggestions for any other programmes appropriate to the community.

3.0 Constraints audience face in relation to radio programming
3.1 Major problems farmers’ face as regards agricultural information disseminated on radio.
3.2 Lengthy of time the problem has persisted and possible attempts made to correct the situation.

4.0 Membership in Radio Farm Forum
4.1 General membership; number of members belonging and participating fully in Radio Farm Forum
4.2 Procedures used to secure regular attendance to agricultural programmes.
4.3 Period of time RFF has been in existence; average years members have belonged to the listening groups.
4.4 How none members in the Radio Farm Forum groups; the extent to which they are helped or encouraged to join RFF or gain knowledge from the radio.

5.0 General information
5.1 Farmers’ suggestions and comments on agricultural programmes.
5.2 Farmers’ dreams about agricultural programming in Zambia.
Appendix ‘4’: **PROCEEDINGS AND DISCUSSION REPORT OF LISTENING GROUPS.**

1. Name of group: ________________________________
   
   District: ____________________ Province: ____________________

2. Date of broadcast: ________________________________

3. Name of programme listened to: ________________________________
   
   Subject of discussion: ________________________________

4. Radio station: ________________________________


6. Starting time of meeting: ________________________________

7. Closing time of meeting: ________________________________

8. Main points of the broadcast:
   (i) ________________________________
   (ii) ________________________________
   (iii) ________________________________
   (iv) ________________________________

9. Questions raised by members on the broadcast.
   (i) ________________________________
   (ii) ________________________________
   (iii) ________________________________

10. Further help required by members on the subject broadcast.
   (i) ________________________________
   (ii) ________________________________
   (iii) ________________________________

11. Action taken by members on any previous broadcast.

12. Opinion of members on the quality of the programme.

   ________________________________

13. How useful was today’s broadcast for you?
   (a) Very useful   (b) Useful   (c) Fair   (d) Of little value
   (e) Not useful at all.
   Why is it so? ________________________________

Signature of Secretary or Chairperson ____________________________ Date: ______________

Signature of CEO/BEO/DAIO: ____________________________ Date: ______________
## Appendix 5: AGRICULTURAL BLOCKS AND CAMPS- SOLWEZI DISTRICT

<table>
<thead>
<tr>
<th>BLOCK</th>
<th>NAME OF BLOCK OFFICER</th>
<th>CAMP</th>
<th>DISTANCE FROM BOMA</th>
<th>NAME OF CAMP OFFICER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musele</td>
<td>Nicholas Mwansa</td>
<td>Chovwe</td>
<td>214</td>
<td>-</td>
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<tr>
<td></td>
<td></td>
<td>Kakozhi</td>
<td>165</td>
<td>-</td>
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<tr>
<td></td>
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<td>Chitungu</td>
<td>202</td>
<td>Beatrice Silukena</td>
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<td></td>
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<td>Kisasa</td>
<td>143</td>
<td>Mrs Mwansa</td>
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<td>Jiwundu</td>
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<td></td>
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<td>Ms. Nyirenda</td>
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<tr>
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<td></td>
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<td>-</td>
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