



Thesis
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UNIVERSITY OF
IBADAN

**DETERMINATION OF AGRICULTURAL
INFORMATION NEEDS AND MEDIA USE
PATTERN OF WOMEN FARMERS IN
NORTH-CENTRAL NIGERIA**

November, 1995

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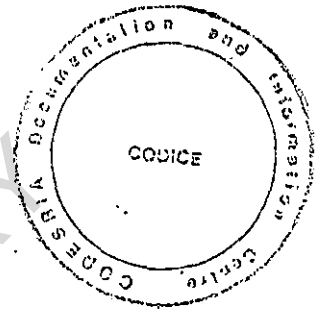
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**DETERMINATION OF AGRICULTURAL INFORMATION NEEDS
AND MEDIA USE PATTERN OF WOMEN FARMERS IN
NORTH-CENTRAL NIGERIA**

BY

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B.Sc. (Hons) Agric. Ed. (Calabar)
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**A THESIS IN THE DEPARTMENT OF
AGRICULTURAL EXTENSION SERVICES.**

Submitted to the Faculty of Agriculture and Forestry
in partial fulfillment of the requirements

For the degree of
DOCTOR OF PHILOSOPHY
UNIVERSITY OF IBADAN

November, 1995

DEDICATION

To the memory of my father
ALHAJI M. YAHAYA
and
My dear mother,
HAIJIYA FATIMATU YAHAYA
and
My sister
HAIJIYA SAFIYA Y. DANIYAN

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ABSTRACT

Women have been acknowledged for their enormous contributions to agricultural production in Nigeria. However, the problem of inadequate agricultural information and under-utilization of mass mediated strategies of information dissemination has rendered extension delivery to women farmers ineffective. This is further aggravated by the socio-cultural barriers to extension agents in reaching women farmers. This study, therefore, attempted to determine the information needs and media use pattern of women farmers. In addition, it investigated the attitude of media practitioners towards the participation of women farmers in media programme production.

Two separate structured questionnaires were designed and administered on media practitioners and women farmers in north-central Nigeria (comprising Kaduna and Katsina States). Multi-stage and stratified sampling techniques were used in sampling 376 women farmers and 120 media practitioners. The women farmers consisted of 143 women farmers in seclusion (pudah) and 233 women farmers not in seclusion (non-pudah). The results of the study show that non-secluded women farmers have higher socio-economic status than their secluded counterparts ($\bar{X} = 141.49$ and $\bar{X} = 131.56$ respectively). Similarly, they are statistically different in

the agricultural tasks performed ($t = -3.31, p = .001$). For instance, while about 58.8% of secluded women farmers are highly involved in land clearing, 80.3% of non-secluded women farmers participate in the same task. However, there is no significant difference in the social participation of the two categories of women farmers.

Agricultural information needs of secluded women is generally different from their non-secluded counterparts ($t = -2.22; p = .01$). Secluded women have low information needs ($\bar{X} = 98.15$) compared to higher information needs of non-secluded women farmers ($\bar{X} = 113.65$).

On specific information needs, the most critically needed technical information for women farmers is related to disease/pest control (65.1%), cropping system (59.6%), crop storage (59.3%) and soil management (59.6%).

Also, current and future market prices are the major marketing information need, to a great extent by women farmers, while social and legal information needs are moderately needed.

As regards media use pattern, the study reveals that 92.8% of the women own at least a functional transistor radio. Radio Nigeria (33.5%), Kaduna State Radio (27.9%) and Katsina State Radio (15.9%) are the favourite stations in that descending order. The most preferred time for listening to

agricultural radio programmes is 8-10 p.m. (19.9%), while more than half of the women farmers (52.1%) listen to agricultural programmes weekly in company of others (86%).

On ownership of television set, only 31.1% own a functional television set. Only 8.2% watch television every night, while the most preferred viewing hour to most of the women (25%) is 8 – 10 p.m. Also, a majority of the women farmers (88.5%) listen to folk music on electronic media.

Pertaining to readership of newspapers and extension publications, about 41% of the women farmers do read newspapers (vernacular and English versions). Also most of the respondents (69.8%) do read extension publications, particularly posters (52.4%). The most preferred language of publication is Hausa (74.2 %).

In general, the major sources of agricultural information are extension agents (92.6%), radio (72.1%), ADPs (58.8%) and women groups (51.1%). However, non-secluded women farmers are more willing than secluded women farmers to participate in media programme production.

The study further reveals that agricultural information need is significantly related to media use pattern ($r = 53.6$; $p = .001$). However secluded women are more favourably predisposed towards radio (74%) than non-secluded women farmers (67.4%). On the contrary, non-secluded women are more favourably predisposed towards television (51.9%) than their secluded counterparts (39.9%). The study also indicates that media

practitioners are generally favourably predisposed towards coverage of women activities. However, female practitioners are more favourably predisposed than their male colleagues ($\bar{X} = 117.40$ and $\bar{X} = 107.62$ respectively). The major constraints to coverage of women farmers activities is religious barrier to practitioners.

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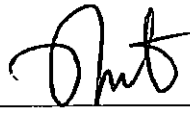
Over and above all, I am grateful to the Almighty Allah for giving me the congenial righteousness and frame of mind to face all challenges.

ALHAMD-LILLAH.

Kuta YAHAYA

CERTIFICATION

I certify that this work was carried out by Mr. K. M. YAHAYA, in the department of Agricultural Extension Services, University of Ibadan, Ibadan.

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CHAPTER ONE

INTRODUCTION

1.1 THE ROLE OF WOMEN IN AGRICULTURAL PRODUCTION IN NIGERIA

Women all over the world have been acknowledged for their enormous contributions to agriculture in developing countries. It is estimated that women's share of food production is 80% in Africa; 60% in Asia; 40% in Latin America (Huston, 1993). The situation in Nigeria is not different as Mijindadi (1993) reported, that women are responsible for as high as 70% of actual farm work and constitute up to 60% of the farming population. It is therefore not an exaggeration, that women in developing countries are the backbone for food security.

In Nigeria, it is estimated that about 80% of the population live in rural areas where the major occupation is subsistence farming. However, earlier studies carried out in Nigeria have shown that in agricultural production, division of labour is unequal, with women carrying a greater work-load than men. According to Ogunleye (1985), out of the 10 linkages in food path, viz: clearing and harrowing of field, planting, weeding, harvesting, transportation, processing, distribution, marketing, storage and cooking, only the first two are dominated by men. The next two are done by women and 70% of other activities are strictly carried out by women along with their usual

domestic burden. Olayiwole (1984) in her study noted that non-muslim women in northern Nigeria are actively involved in agricultural production. She observed an up-surge of muslim Hausa/Fulani women participation in agriculture. She attributed this trend to changes taking place in Nigeria's economy. However, an earlier report by Adeyokunnu (1981) had put the level of Muslim women participation in farming activities at 40%. Therefore, the roles played by African rural women in the production of major cash crops vary greatly depending on the agricultural potentials, societal norms, type of crops and agricultural tasks to be performed.

Despite the widely acknowledged significant contribution of women to agricultural development in Nigeria and indeed the developing countries, women remain marginalised. Thus in recent times, the concept of status of women vis-a-vis that of men has continued to generate controversial policy statements and research attention. A situation in which women's programmes are often sequel to development programmes as an appendage does not augur well for equitable development. It is in view of the need to promote the social and economic status of women and bring about desirable changes in their existing circumstances that various gender studies have been carried out (Carr, 1981; Bryson, 1981; Callaway 1984; Jackson, 1984; Longhurst, 1984; Stamp, 1989 and NARDES, 1991).

In Nigeria, series of development programmes have been institutionalised, the most recent include: the Directorate of Food Roads and Rural Infrastructure (DFRRI), Better Life for Rural Dweller Program-

mes/Family Support Programme and nationwide Agricultural Development Programmes (ADPs). These programmes have significant roles to play in the implementation of national development programmes. Extension services in its multi-dimensional facets, aim at providing farmers (including Women) with necessary information, education, skill and technology that enhance productivity and bring about social and economic benefits to the people. Therefore, the need for appropriate development programmes in consonance with the specific needs of the potential beneficiaries is paramount.

1.1.1 Communication and Women in Development

Communication is an interactional process that involves exchange of ideas, information, points of views and experiences between persons and groups (Savio, 1990).

The reported success stories of agricultural transformation in many countries have vital link with farmers having ready access to agricultural information. Aina (1984) reported that while there is food deficit in developing countries, the United States of America, Canada and Australia have large surpluses in food production. These success stories may be linked to effective communication systems at the grassroots.

In the quest for economic, political and social advancement of women in developing nations, several communication strategies have been initiated. The original United Nations Educational, Scientific and Cultural Organisa-

tion (UNESCO) funded women's feature services, established in developing nations of Africa, Asia, the Caribbean, Latin America and the Middle East, in 1978, provide a model through which to explore women's relationship to newsmaking process and bringing women fully into national development (Byerlys, 1990). The implication of this, is that development planners as well as media practitioners need to consider women's important roles associated with bearing and rearing of children as well as the productive roles in growing and marketing of food and maintenance of households which are essential to agricultural and economic development in Nigeria.

1.2 STATEMENT OF THE PROBLEM

In the past, development assistance has failed to reach women in rural areas both in absolute and relative terms when compared to men. Such failures stemmed from the fact that the primary focus of extension services with respect to agricultural development has been on men. Mijindadi (1993), acknowledged that women play significant role in agricultural production in Nigeria but they receive little or no information from extension agents. This situation has resulted in the reduction of women's productivity, socio-economic status and increased drudgery.

The problem of inadequate agricultural information has generally contributed to the decline in Nigeria's agricultural productivity and development as obtained in many developing countries (Aubrac, 1977; Williams, 1978; Williams and Willims, 1978; Thorpe, 1980 and Olowu, 1990a). In northern Nigeria, extension approaches to women involved in agricultural

activities have been ineffective. For instance, women in *pudah* (seclusion) have suffered untold deprivation due to the erroneous perception of women by development planners who never seek the input of women about their needs. However, the success story associated with the development in other parts of the world has been attributed to appropriate development framework which has effective communication component. In Nigeria, most development programmes often fail to yield desirable results due to lack of understanding of the socio-economic profile and particular needs of the intended beneficiaries. In the same vein, the power of mass media in the development process has been neglected, underestimated and lop-sided in favour of other areas of interest to planners of development programmes and media practitioners alike.

Although numerous studies have established various sources of information to farmers (Bogunjoko, 1983; Olowu and Igodan, 1989; Nwachukwu and Akinbode, 1989; Onweagba and Obibuaku, 1992; Onweagba and Anyanwu, 1992), these studies have not identified the sources of information for women farmers. Also, no differentiation has been established between secluded and non-secluded women in terms of their agricultural information needs and media use pattern. Neither has any attempt been made to seek the opinion, perception and attitude of mass media practitioners as regards their involving women farmers in agricultural programme production.

In view of the foregoing problems, this study attempts to answer the following research questions, among others:

- (i) What are the characteristics of women involved in agriculture in north central Nigeria?
- (ii) What are the information needs of women involved in agricultural production?
- (iii) Are women's information needs task specific?
- (iv) What is the media use pattern of women farmers?
- (v) Is there any relationship between women's demographic characteristics and their media use pattern?
- (vi) Is there any relationship between women's information needs and their media use pattern?
- (vii) Is there any difference between secluded and non-secluded women farmers' information needs?
- (viii) Is socio-economic status of women dependent upon their seclusion status?
- (ix) Is there any difference between rural and urban women's media use pattern?
- (x) Is there any relationship between women's demographic characteristics and their information needs?
- (xi) How do media practitioners perceive women farmers involvement in the production of media programmes?

1.3 OBJECTIVES OF THE STUDY

The general objective of the study is to determine the agricultural information needs and media use pattern of secluded and non-secluded women farmers of north central Nigeria.

The specific objectives of the study are to:

1. Identify the demographic characteristics of secluded and non-secluded women farmers of north central Nigeria.
2. Determine the relationship that exists between women farmers' demographic characteristics and their media use pattern.
3. Identify the types of agricultural tasks performed by secluded and non-secluded women farmers in north-central Nigeria.
4. Investigate the media use pattern of secluded and non-secluded women farmers in north-central Nigeria.
5. Identify the differences between agricultural information needs of secluded and non-secluded women farmers.
6. Investigate the attitude of secluded and non-secluded women farmers towards the mass media.
7. Ascertain the perception and attitude of media practitioners towards women farmers' participation in media programme production.
8. Determine the relationship between media practitioners' demographic characteristics and their attitude towards women farmers participation in media programme production.

9. Make recommendations based on empirical data on how to improve information dissemination to women farmers in Nigeria.

1.4 STATEMENT OF HYPOTHESES

1. There is no significant relationship between women farmers' demographic characteristics (age, home background, educational attainment, religion, seclusion status, social participation, marital status, land ownership status and residence status) and their media use pattern.
2. There is no significant relationship between women farmers' information needs and agricultural tasks performed.
3. There is no significant relationship between women farmers' information needs and their media use pattern.
4. Agricultural information needs of rural women farmers is similar to those of urban women farmers.
5. There is no significant difference between the socio-economic status of secluded and non-secluded women farmers.
6. Secluded women farmers' information needs significantly differ from those of non-secluded women farmers.
7. Secluded women farmers' attitude towards mass media is significantly different from that of non-secluded women farmers.

8. There is no significant difference between secluded and non-secluded women farmers' media use pattern.
9. Electronic media practitioners' attitude towards women farmers' participation in agricultural media programmes production is different from that of print media practitioners.
10. Media practitioners' demographic characteristics are not significantly related to their attitude towards women farmers' participation in agricultural media production.
11. Male media practitioners' attitude towards women farmers participation in agricultural programme production is not significantly different from their female counterparts attitude.

1.5 JUSTIFICATION FOR THE STUDY

The dearth of empirical data concerning information needs and media use pattern of women farmers from diverse socio-economic background necessitates this study.

There is inadequate information for women in agriculture in Nigeria. Therefore, different intervention strategies are needed in order to help women utilize agricultural innovations developed to enhance agricultural productivity and food security in the country.

Momsen (1987) identified some reasons why interest has shifted recently to the study of impact of the development process on women. The first is the policy statement of the World Bank that some of its projects in the Third World countries should be directed at poor women. Another important reason is the establishment in 1975 of the United Nations decade for women and the recognition of the diverse roles played by women in the development process. If the desired increase in food production in Nigeria must be achieved then women who constitute about 50% of the farming population must be informed, persuaded, educated and integrated into the development process.

In many developing countries (including Nigeria) the research agenda has neglected the needs of the majority of rural people seeking their livelihood in difficult conditions. Yet, extension activities show that there has been little systematic effort to obtain feedback from these rural farmers on the technologies introduced to farmers. Result of clientele oriented research (Ewell, 1989; Seagers and Kaitmowitz, 1989 and Kaitmowitz, 1990) confirms that feedback has rarely been sought by scientists, and even when sought it has been haphazard and weak.

Fieldstein *et al* (1988) posit that mobility or cultural constraints that limit women's access to extension advice must be overcome through special arrangements. Extension agents must not only have information that was derived through the research process, but they must have access to women and understand women's various needs. This has been a major problem of

agricultural extension networks which often bypass women in agriculture. Many women are unable to attend field demonstrations because their tasks schedules, interests and needs differ from those of men.

According to FAO (1987), these problems were largely unrecognised by the international community prior to the 1979 World Conference on Agricultural Reform and Rural Development (WCARRD) which declared:

Rural development based on growth with equity will require full integration of women, including equitable access to land, water and other natural resources, inputs and services, and equal opportunities to develop and employ their skills. There is also an urgent need to expand knowledge and statistical data on all aspects of women's roles in rural activities (p. 3).

If this desirable improvement in the circumstances of women must be achieved, there is the need for empirical data of this nature for development planners and decision makers to acquaint them with the roles played by women and their needs in agricultural production and rural development. Therefore, appropriate extension methodologies for working with rural women and transfer of technologies that require multi-directional communication approach become paramount.

Although, there is increasing policy dialogue and recognition of gender issues in Nigeria's agriculture, much more empirical data is required. Attempts to obtain relevant data about the needs and indigenous knowledge of women are currently negligible and frustrating. This is due to fixed and biased focus of development objectives and negative attitudes towards women of disadvantaged circumstances. This does not augur well nor cor-

respond to the views and aspirations of the scientific world or standardized methods for paradigm changes. Thus, a detailed study of the socio-economic profile of women in addition to their agricultural information needs will enable extension organisations ascertain what types of information women need as well as when and where to obtain such information.

Findings from this study will provide some answers to these issues. Also its conclusion will provide a practical guide to extension organisations and researchers on how to effectively utilize feedforward mechanism in information management. In addition, it will contribute to existing empirical data on strategy formulation and design of relevant interventions to enhance the productivity of women in agriculture.

1.6 OPERATIONAL DEFINITION OF SOME TERMS IN THE STUDY

Women farmers

Women farmers are operationalised in this study to mean, women who are actively involved in agricultural activities and derive 75% of their income from such activities as production, processing, management and marketing of agricultural products or a combination of these practices.

Agricultural tasks

Agricultural tasks are activities of women that involve various on-farm and off-farm operations of production, processing, transportation, storage and marketing.

Seclusion status of women

Seclusion status of women is based on the concept of Islamic religion which connotes "restriction" Thus women in pudah (seclusion) have their movements restricted. A woman in pudah is allowed to go out only under a particular necessity with prior knowledge of the husband. Therefore, women farmers either carry out their various agricultural tasks within the household under pudah or are outside the household.

Land tenure status

Land tenure status refers to women's access to land for cultivation of crops and keeping of livestock. In this study, a woman is either a landowner, land tenant, family land dependent or husband land dependent.

Socio-economic status

The socio-economic status of women farmers was determined by the following:

- (i) possession of household utensils and materials
- (ii) type of house
- (iii) furniture type
- (iv) types of plates owned
- (v) types of boxes and jewels
- (vi) farm size
- (vii) livestock enterprise

The socio-economic status is therefore a weighted index obtained from the above variables.

Social participation

Social participation is defined as women's membership of organised social groups, cooperatives, religious organisations and community development programmes, as well as their attendance and leadership positions in such organisations.

Mass media

The term mass media refers to a variety of means through which information is made available to women farmers, such as radio, television, newspapers, extension bulletins, posters and films.

Traditional media

Traditional media in this study refer to traditional forms of communication. These include the use of local forms of entertainment, such as folk songs by local musicians and praise singers, town criers and drums that are peculiar to a given social and cultural environment.

Media practitioners

Media practitioners are individuals who work in media organisations. They include editors, reporters/correspondents, media programme producers and presenters of electronic media.

Media practitioners' attitude

Media practitioners' attitude refers to the disposition of media personnel towards focusing on women farmers in agricultural media programme design and production.

Information needs

Information needs refers to agricultural information desired by women farmers. This information is peculiar to the existing agricultural environment of women farmers. It is a comprehensive package which focuses on conventional agricultural practices, current innovations in both crop and livestock management strategies. In this context, information is further divided into technical, marketing, social and legal forms of information.

Media use pattern

This is conceptualised to mean how women farmers search and utilize information from available mass media channels such as radio, television, newspapers, extension publications and traditional media. The use is based on Fett *et al's* (1974) recommendation in terms of preference, frequency of patronage, accessibility, reliability, credibility and sustainability.

Feed forward mechanism

Feed forward mechanism is construed in this study to mean information or input provided by women farmers to media practitioners or development

planners. This is obtained through the effort of extension agents and media practitioners periodic survey or interviewing of women farmers.

1.7 SCOPE OF THE STUDY

This study was delimited to women farmers and media practitioners within north central Nigeria. This area comprises Kaduna and Katsina states. However, only women farmers (both secluded and non-secluded) whose agricultural activities contribute 75 per cent and above to their income were regarded as active women farmers.

Media practitioners considered for the study were selected from both the print and electronic media located within the two states in the region..

CHAPTER TWO

LITERATURE REVIEW

2.1 AGRICULTURAL PRODUCTION SCENARIO IN NIGERIA.

The concept of agriculture has received universal attention in relation to various evolutionary trends in the socio-economic transformation of several societies. In the past, agriculture was viewed from a narrow perspective because it was regarded as cultivation of crops and domestication of animals. For instance Olga (1980) defined agriculture as :

a vital link in the production of food, shelter and clothing for mankind and it incorporates a great diversity of practices and of specialisation. p. 3.

This definition is also shared by Grigg (1974) who viewed agriculture simply as cultivation of crops and rearing of livestock. While Christopher (1977) posits that "agriculture is an attempt by mankind to control plants and animals to fulfill human needs". However, recent developments in the areas of agricultural specialisation show that it is all embracing and thus affects all aspects of human endeavour. These include, social and economic development, health improvement, environmental protection, education, cultural rejuvenation, communication and overall national development.

Trends in agricultural practice in Nigeria show that agriculture transcends mere growing of crops and rearing of animals in order to meet only human needs. The multi-sectoral approach to extension dispensation indicates that agriculture encompasses scientific and systematic production of crops, animals, fisheries and agro-forestry for both human and animal consumption as well as raw material production for agro-allied industries. Therefore, agriculture is a multi-faceted discipline characterised by various areas of specialisation ranging from production, through management to marketing and consumption. These areas of specialisation cover agronomy, crop protection and environmental biology, animal science, agricultural economics, agricultural extension and rural sociology, fisheries and aquaculture, forestry and wildlife management.

The scientific and systematic implications of these areas in modern agriculture is the emphasis placed on productivity. Agricultural productivity is a relative measure of the effectiveness of the application of scientific knowledge from research or investigations in various areas of agriculture to output per unit of input utilised. According to Gunther and Gisela (1975), productivity in agriculture implies the cropping capacity, yield or relative level of output. Therefore, the practice of agriculture requires effective combination of inputs that will bring about higher outputs and subsequently improve the socio-economic status of farmers involved or would-be farmers. In modern agriculture, the key players in agricultural development process include the researchers, the farmers, the extension agents, the consumers and the larger social system. The interaction that takes place among these

people have significant impact in the agricultural development process of any nation.

In Nigeria, several agricultural development interventions have been adopted by successive governments. These were all aimed at improving or elevating the level of agricultural production that will ensure self-sufficiency in food production.

2.1.1 National Accelerated Food Production Programme (NAFPP)

In the early sixties, the federal and state governments embarked on the National Accelerated Food Production Programme (NAFPP). The programme was designed to accelerate the production of maize, rice, guinea corn, millet, wheat, cassava and cowpeas. This was achieved through the introduction of high yielding varieties, use of appropriate fertilizers, agro-chemicals, good storage and processing facilities, provision of credits as well as marketing outlets. In addition, several research institutes were mandated to develop improved crop varieties and were made popular through extension agents and the use of mass media.

2.1.2 Operation Feed the Nation (OFN)

In 1976, Operation Feed the Nation (OFN) programme was launched to address the problem of rising food crisis, rural-urban migration and escalating food import bill. The OFN Programme attempted to mobilize the general public to participate actively in agricultural production and ensure self-sufficiency in food production. The programme stimulated Nigerians to farming through the strategies used. Some of these strategies included

subsidised production inputs, increased bank credits to farmers, establishment of commodity boards and fixing of attractive prices. The programme was replaced by Green Revolution Programme in 1979.

2.1.3 Green Revolution Programme

The Green Revolution Programme was an attempt to bring about radical change in Nigerian agricultural production and eliminate the problem of inadequate food supply in the country. Large and small scale farmers received a number of incentives to boost their production level during the implementation of the programme. Livestock and fisheries components were introduced while the research institutes were reorganised to make them more responsive to the needs of the programme (Williams, 1981).

2.1.4 River Basin Development Authority (RBDA)

Considering the existing abundant water resources in the country and its potentials for increasing agricultural production in Nigeria, the federal government established the River Basin Development Authority (RBDA). The scheme became necessary because of the persistently short rainy season in many parts of the country which has continued to restrict cultivation to single cropping pattern all the year round. However, with the establishment of various large scale irrigation facilities, the country witnessed unprecedented multiple cropping pattern. In addition, larger areas were put into cultivation, while livestock and fisheries production were intensified. Williams (1981) reported that the Hadejia and Jama'are river basins and Tiga and Challawa dams located in former Kano State could conserve enough

water to irrigate lands that can produce over 50% of the nation's need for wheat, 30% of its need for rice, cotton and sugar cane. In addition, it could produce several thousand tons of fish, develop livestock, poultry and hydro-electric power generation.

2.1.5 Integrated Agricultural and Rural Development

In another dimension, the concept of integrated agricultural and rural development was adopted in the mid-60s. This became necessary because of the need for the application of knowledge and skill of all the relevant national services. This concept involves the provision of infrastructural facilities such as roads, schools, water supply in the rural area at the right time in required quantity to the farmers. Two pilot projects started in northern Nigeria in 1964 at Gombe and Gusau with World Bank assistance. The success of these two projects encouraged other state governments to embark on such projects with the assistance of the World Bank. Since then Nigeria has continued to witness agricultural development programmes of various dispensations. It is against this background that effective extension services have been established. Hence the closest assistance ever given to farmers in Nigeria has come from contact with various Agricultural Development Programmes (ADPS) and the extension agents working under the popular training and visit (T and V) system.

But it should be pointed out that the trend in the rural sector shows that despite the huge investment in the agricultural sector, which was assumed would automatically bring about eradication of rural poverty and isolation,

the desired change has not been achieved. This is partly due to the deplorable conditions of rural areas, its enormous size, and dwindling economic resources needed to address the problem of rural underdevelopment in Nigeria.

2.1.6 Directorate of Food, Roads and Rural Infrastructure (DFRRI)

In 1987, Babangida administration embarked on an ambitious programme of rural development in Nigeria with the establishment of the Directorate of Food, Roads and Rural Infrastructure (DFRRI).

At its inception, DFRRI attempted to open up the rural areas through the construction of access roads and the provision of basic amenities of living. This was inevitable because it had long been realised, according to Otubanjo (1992), that the economic future of Nigeria lies in its massive and virtually untouched rural areas. Therefore, the potentials of rural areas were seen to be both immediate and long-term. The idea of opening up of rural areas with feeder roads and integrating them with other parts of the country provide basis for food to be evacuated in order to enhance the quantity of food and raw materials consumed. Consequently, there will be more food at cheaper rate. On the other hand, improved rural conditions will stem the rate of rural – urban migration, improve quality of rural life and by implication, its productive capacity which would ensure a greater exploitation of the potentials of the rural areas. The problem of DFRRI is hardly one of enthusiasm and relevance but of the variation between the enormity of rural under-development and the quantum of resources available to subdue the problem.

2.1.7 Production of some key crops in Nigeria

These developments have affected agricultural production level in Nigeria. Omenesa (1991) reported that annual production of sorghum has continued to increase, even though it is grown only in the savanna ecological zones of Nigeria. This is as a result of improved varieties developed by researchers for its popularization. Furthermore, the area under sorghum production has increased from 0.5 million hectares in 1959 to over 3 million hectares in 1989 with a total production of over 3 million tonnes (Table 2.1).

Wudir (1991) reported that rice is the most popular of all cereal crops grown in the country. It is grown in all the states of the federation. In 1989 there were over 1 million hectares of rice under cultivation with a total production level of about 2 million tonnes. It accounts for nearly 12% of Nigeria's food consumption. Maize forms a major component of poultry and piggery feeds. It is also part of the concentrate ration of dairy and beef cattle, and sheep and goats. In all these, maize is a source of energy and forms 55-75% of such rations. Maize is a major raw material for several industries. For instance, following the ban on the importation of malted barley used mainly in the brewing industries resulted in the industries automatically resorting to the use of maize as an alternative. Other industrial maize products include starch, flour for bread, and other confectioneries and baby foods. Other flaked maize products are corn flakes, corn grits, distilleries, syrups and molasses.

TABLE 2.1
Production figures of selected major food crops in Nigeria: 1970 - 1989
 ('000 tonnes)

Year	Rice	Maize	Sorghum	Millet	Wheat	Cassava	Yam	Potatoes
1970	344	1220	1600	2800	6	8600	12,000	204
1971	389	1042	1340	2688	7	8600	12,000	204
1972	447	1182	3561	3048	7	7900	12,000	205
1973	489	600	3000	2150	5	8100	12,500	204
1974	525	610	3500	2800	6	8800	13,000	216
1975	515	1260	3900	3000	18	10,500	12,950	199
1976	387	1295	3700	2900	20	10,800	12,880	217
1977	408	1395	3010	2600	21	10,600	12,995	219
1978	514	1450	3000	3000	21	10,500	12,339	240
1979	752	1500	3785	3130	21	11,000	13,090	251
1980	1090	1550	3800	3130	21	11,000	13,090	260
1981	1242	1580	3850	3230	21	11,000	12,895	260
1982	1250	1750	3275	3850	30	11,000	10,900	270
1983	1279	1600	2660	2300	35	9,950	9,089	240
1984	1300	1800	3551	3683	45	11,800	9,730	260
1985	1428	1800	4822	4001	39	11,910	10,080	258
1986	800	1735	2636	2338	25	12,100	10,080	258
1987	1780	1357	3229.13	2286.54	110	12,100	10,990	260
1988	2000	3773.54	4920	5134	260	13,000	10,950	251
1989	2020	5628.02	3280	4090	285	13,200	11,095	206

Source: Wudir, B.B. (1991) "Cereals in the Food Economy of Nigeria", in Lawani, S.M. and T. Babaleye (eds). Proceedings of the Workshop on Recent Developments in Cereal Production in Nigeria: 2 – 4 September, 1991, pp. 23.

Cassava is one of the most staple food crops in many households in Nigeria. Indeed Nigeria is the largest producer of cassava in the world. It has overtaken Brazil and Thailand. Currently, there are more than 400 varieties of cassava species in Nigeria. The International Institute of Tropical Agriculture (IITA) has made tremendous contribution to the improve-

ment of cassava production in Nigeria (IITA, 1992). About 13.2 million tonnes of cassava tubers was produced in 1989 and the most common food from cassava is garri. Other by-products of cassava include starch and cassava flour.

2.2 AGRICULTURAL KNOWLEDGE INFORMATION SYSTEM (AKIS)

The major task of agricultural development efforts is information transfer to improve agriculture. The World Bank (1990) recognised the challenges for extension organisations based on the complex processes involved in changing human behaviour through communication. It was this realisation that led to the development of the concept of Agricultural Knowledge Information System (AKIS). According to Mettrick (1993), it is an institutional approach which looks at sets of interconnected actors who play different complementary roles in agricultural development process. It was further described as a practical approach which sets goals as the management of information. It is designed to function in a way considered as desirable for policy makers, farmers and other participants in the information exchange process. Therefore, AKIS according to Rollings (1983) cited in Mettrick (1993) states that:

AKIS is a set of agricultural organisations or persons, and the link and interactions between their generation, transformation, transmission, storage, retrieval, integration, diffusion and utilization of knowledge... (p.126)

The concept of technology transfer in agriculture is characterised by information exchange. This concept has received considerable attention in development communication agenda in the past few decades. Nelson and Farrington (1994:3) defined information exchange as:

"a collaborative process, around a central theme, carried out by actively interested parties".

This may be conducted in audio visual or written modes, broadcasts, face-to-face telephone or film. However, radio, television, and video film have conventionally been used as a one-way means of disseminating information.

Earlier on, Rogers *et al* (1970) posited that one of the difficulties of planning change programmes in less developed countries is that development planners have insufficient data or even worse, incorrect data on which to base their plans. However, within the paradigm of research utilization, results are often produced in answer to user needs. This is characterised by the flow of clientele needs to researchers. Hence, it is not a one-way flow of research findings from researchers to practitioners. This assertion is further supported by Nelson and Farrington (1994) who identified two essential elements of information exchange networking. The requisite for the exchange process is that there is self-interest among the participants in the exchange. Secondly, information exchange, networking has a strong element of voluntary collaboration, which distinguishes it from networking conducted among commercial enterprises.

Within the context of agricultural development, there is need for effective interaction among the key players in technology generation, on the one hand, and those actively involved in the dissemination of such technological information, on the other, as well as those that such information are directed at. It is in recognition of this, that Hornick (1988) highlighted the need to seek for farmers opinion or legitimate information sources to ensure effective communication. This idea is further corroborated by Alias (1992) who advocated for a sound research - extension linkage in a well established agricultural information system. This is why Aina (1984) challenged extension agencies to reconsider the trend where extension services are lopsided in favour of technical information despite variations in agricultural tasks performed by farmers generally and women in particular. It is against this background that Opio-Odongo and Raza (1981) suggested the incorporation of the ecological and institutional attributes of the communities involved in agricultural development. This will help planners of innovation diffusion to address what Chartrand *et al* (1983) called "a lag in getting information to the farms" despite ever increasing stream of information from federal agencies, universities, researchers and other sources.

It was in view of the prevalent source-oriented or message-oriented rather than user - oriented, communication strategies in research utilization process that Rogers *et al* (1970) proposed a potent framework for effective utilization of research findings (Figure 2.1):

KEY

1. Flow of clientele needs (for information) to change agents
2. After interpretation and classification these needs are translated to the research system.
3. Researchers attempt to provide needed information either from accumulated knowledge or via newly originated research.
4. Change agents distill and interpret these needs (information) for clientele.
5. Feedback from clientele to change agents on the adequacy of the new information meeting their needs.
6. Change agents convey clientele's feedback to researchers perhaps leading to fresher clientele needs and recycling of the entire process.

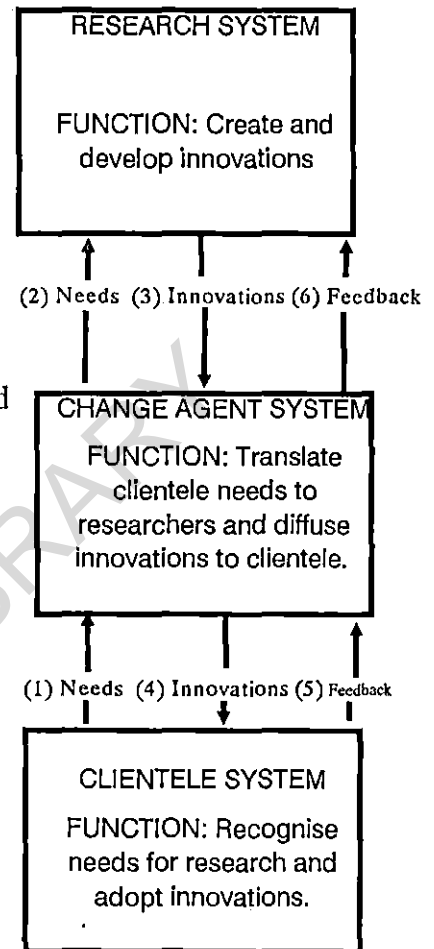


Fig. 2.1: Paradigm of the Research Utilization Process

Source: Rogers et al (1970): "Diffusion of Innovations in Brazil, Nigeria and India": Diffusion of Innovations Research Report, 24, Dept. of Communication, Michigan State University, p. 164.

This model is another innovative strategy for effective linkage between technological generation in agriculture, on the one hand, and the needs of

end-users of such technologies, on the other. This is a significant contribution to on-going efforts by researchers and other key players in agricultural knowledge information systems.

At this juncture, it is clear enough that information is a crucial variable in technology transfer in agriculture. Chambers and Jiggins (1986) testified to this, when they argued that a farmer-first-approach is most suitable to meet the diverse needs of farmers (including women). Looking at such needs from a holistic perspective, Chambers *et al* (1985) recommended inter-disciplinary approach for appraising the resources, needs and problems of farm families. Data to this effect could be obtained through continuous on-farm research to find solutions that better the needs of rural poor farm families. This process in its entirety is regarded as the heart of extension practice (Saito and Spurling, 1992).

2.3 WOMEN IN AGRICULTURE

Women feature prominently in Nigerian agriculture as obtainable in many developing countries. The genesis of women's issues according to Maigida (1990), could be traced to the period 1975 - 1985 when the United Nations declared that period "the Decade for Women". What this means is that the United Nations did realise the role women play in the development process but, particularly in agriculture. Since then, the role of women in agricultural activities has dominated the area of discussion among researchers, policy makers, educationists and other planners related to development. This assertion is further corroborated by Aidoo (1988), who argued that:

the long term tested productive energies of African women can be liberated and rationalised in governmental land regional policy to sustain food and agricultural development as well as nutrition security in the continent.

Despite the enormous contribution of women to food security in Africa and Nigeria in particular, exclusion of women from access to land and control of modern agricultural facilities have been identified as factors contributing to Africa's acute food shortages. Several studies in many parts of the world reveal that only men have been allocated land, granted loans and have direct contact with extension agents. In Nigeria, 70 - 80% of the population are actively engaged in subsistence agriculture, while about 75 per cent live and earn their living in rural areas. It is also an established fact that 50% of the rural population is female. However, rural women in Nigeria like their counterparts in other parts of Africa, are faced with numerous constraints that undermine their potentials. Apart from their domestic roles, they are engaged, on a continuous basis, in home-related, on-farm and several petty income generating activities. In spite of these numerous contributions to the socio-economic development of the country, they remain relegated to the background and their voices cannot be heard neither can they make any impact on development policies.

Federal Office of Statistics (FOS) (1984) report shows that 86% of rural households are engaged in crop farming, 50% in livestock production and 40% in fishing. The report further showed that 48% of all females are fully engaged in agriculture compared to 17% of men. In some states, such as Anambra, Imo, Cross River, Benue and Kaduna over 80% of women in rural

areas are actively involved in agriculture. In Hausaland and many northern states, women are involved in harvesting of food crops, processing, storage, threshing, clearing, grinding, pounding grains, roots and tubers or smoking and drying fish. Also Fulani women and maids on the other hand are involved in making cheese and yoghurt and processing as well as marketing other by-products of milk.

In spite of this outstanding contribution of women in agriculture in Nigeria, particularly in northern Nigeria, several factors affect their effective participation and level of productivity. Some of these include: lack of access to production inputs, limited capital to cope with the ever increasing cost of farm project execution. Other factors include socio-cultural barriers that make it difficult for them to obtain credit from credit and finance institutions. Similarly, existing traditional land tenure system and inheritance of land resources have placed women at a disadvantaged position. This situation is further aggravated by biases and erroneous public perception that women are merely farmers' wives, and in that capacity, should only benefit from services through their husbands. The idea that information disseminated directly to men will "trickle down" to women never happens in reality.

Several other factors have continued to hinder women's optimum performance in agricultural productivity. Apart from their poor resource base, they do not own personal land neither do they have control over traditional land. The most recent discrimination against women is what the Nigerian Agricultural Insurance Corporation maintains as a policy not to insure

women farmers because they generally do not own the land on which they cultivate their crops (Onazi, *et al*, 1992).

In some parts of northern Nigeria, the practice of *pudah* (seclusion) has limited the contact between male extension agents and women farmers. While on rare occasions, extension agents may be able to serve women farmers on individual or group basis, the level of restrictions still affects their effectiveness.

2.3.1 Policy interventions

In view of the significant roles played by women in development, the United Nations' (UN) member countries declared 1975 as Year of Women. At the end of the programme, member countries were specifically asked to improve the role and plight of women. Since then, several policy interventions have been initiated and implemented. Apart from declaring 1975 - 85 a Decade for Women, the period witnessed a number of women welfare policies. For instance, United Nations Fund for Women in Development (UNIFEM) was established as a pioneer and only international funding agency directed exclusively to support the self-help of the poorest women in the world. It provides financial and technical assistance to farmers, merchants and entrepreneurs in developing countries. This assistance is given in order to reduce the incidence of poverty, lessen the hardships that women endure and make women's work more fruitful. UNIFEM - funded projects may include grants or revolving funds within the context of projects, to assist women income generating activities. Other projects supported by UNIFEM

may be concerned with literacy campaigns for women in villages, assistance in training women as extension workers, provision of subsidised inputs for use by women farmers, and assistance to skilled and experienced women in various types of vocations and cottage industries. Further assistance may also be available for projects related to agricultural production and the marketing of agricultural products.

The 1979 World Conference on Agrarian Reform and Rural Development (WCARRD) acknowledged the significant contribution of women to agricultural production and rural development. The conference declared a programme of action founded upon guidelines and principles that included the assurance that women participate and contribute on an equal basis with men in the social, economic and political processes of rural development and enjoy uniform conditions of life in rural areas. The WCARRD report further directed all governments within the ambit of the United Nations to provide agricultural inputs and social and economic services to women on non-discriminatory basis. It also requested for free access to existing delivery systems and to broaden the range of agricultural training and extension programmes to support women's roles in various agricultural activities such as production, processing, preservation and marketing.

In Nigeria, concerted efforts have been made by government to integrate women into the development process with specific reference to agriculture. This is to enable them benefit and have access to agricultural inputs, credit and extension services like other farmers in the country irrespective of their

socio-economic status and gender differences. The World Bank, Food and Agriculture Organisation of the United Nations and United Nations Development Programmes (UNDP) in conjunction with the Federal Government of Nigeria have had several intensive studies on the above issue.

In the past, development assistance had failed to reach women in rural areas both in absolute and relative terms. Chale (1991), confirmed this skewed trend in Nigeria's march towards self-sufficiency in food production. She argued that this trend was based on the earlier misconception that women play peripheral role and contribute marginally to Nigeria's agricultural production, hence the focus of agricultural development programmes was primarily on men. It was based on the recognition of the plight of women and government's effort to enhance food security in Nigeria that Women in Agriculture (WIA) was entrenched as one of the components of the Agricultural Development Programmes (ADPs).

The federal government's intervention policy as regards Women in Agriculture started in 1973 with assistance from Food and Agricultural Organisation (FAO) and the Norwegian Agency for Development (NORAD). It initiated the Home Economics projects in Rural Development as a unit of the Federal Ministry of Agriculture and Rural Development. It was mandated to ensure full participation of women in development; enhancing the well-being of rural farm families; improving their nutritional requirements through increased food production. It was

also aimed at improving processing, preservation and storage of farm produce at farm level. And finally, inculcating in women elementary technical skills and knowledge related to small scale industries and modern equipment related to their traditional roles of food producers and processors.

In 1987, a project on skills training for rural women was initiated in Nigeria and was funded by a grant from the United Nations Development Programme (UNDP). Its major objective was to reinforce the on-going activities of the Home Economics division, through the establishment of processing equipment in selected villages in the country. In the context of the Nigerian food question, the activities of the Home Economics division was aimed at ensuring self-sufficiency in food for Nigeria through women farmers. Another crusade towards this end started in September 1987 when the Better Life Programme for Rural Dwellers (BLP) was initiated by Mrs Maryam Babangida. The activities of Better Life Programme touched women in Nigerian agriculture based on intervention on behalf of women in respect of:

- (i) acquisition of farmland for women groups
- (ii) distribution of improved high-yielding and disease resistant crop varieties to women farmers.
- (iii) bulk purchase and distribution of fertilizers to women.
- (iv) formation of women cooperatives to process and market agricultural products.

A corollary benefit of the Better Life Programme is the stimulation it has given international intervention in the cause of the Nigerian rural women. United Nations Children Fund (UNICEF) evolved a highly comprehensive scheme designed specifically to offer better life to rural women. The scheme, a multi-faceted one, was designed to focus primarily on food production, food processing and storage; food and nutrition policy development and infant feeding. The project had five years life cycle (1991 - 1995) covering 46 local governments in Nigeria. About 750,000 women farmers were earmarked for training in all the areas selected for the project. In addition, extensive training programmes and capacity building for local agricultural extension staff, particularly community based women extension workers - was initiated and adequately implemented.

The most recent policy intervention concerning women farmers in Nigeria is the integration of women farmers into the mainstream of Agricultural Development Programmes (ADPs). Women in Agriculture component was established in 1990. It was initiated to ensure that women farmers who constitute a very sizable percentage of all small-scale farmers in Nigeria benefit from the ADP programmes. This implies access to improved farming inputs (technical knowledge, planting materials, fertilizers, chemicals, etc.) and credit facilities for the women. This has resulted in the recruitment of female extension workers who work with female farmers; and the use of women farmers as contact farmers and contract growers.

Onazi *et al* (1992) opined that "meaningful increase in agricultural production and productivity will be easier to achieve in Nigeria if the agricultural policy and extension operation took special cognizance of women's input and potentials". They perceived the incorporation of WIA component into the extension programme as an attempt for it to handle gender related issues. Even though, WIA has succeeded in charting a new course for women farmers, it is not devoid of certain constrains (Njoku, 1990; Chale, 1991 and Onazi *et al*, 1992). WIA has suffered a number of shortcomings since its inception in 1990. There have been reported cases of inadequacy of WIA staff, both in numerical and qualitative terms. The situation is worst in northern Nigeria where educational attainment is seriously lopsided in favour of men. Therefore, from the foregoing analogy there is need for drastic policy re-orientation and a comprehensive agenda for extension delivery to women farmers in Nigeria as we approach the 21st century.

2.3.2 Women farmers productivity under the training and visit system of extension

Within the nationwide agricultural development projects in Nigeria, the Training and Visit (T & V) system of extension is the strategy for providing services to farmers. The T and V system was developed by Benor and Harrison (1977) and has the primary objective of increasing the crop yields and subsequently the income of farm families. The clientele of the T and V system consist of all farm families under the jurisdiction of a village exten-

sion worker (VEW). The system is structured in such a way that it entails a well defined job schedule, timely and continuous training opportunity, supervision and provision of necessary facilities to extension staff to ensure effective job performance.

The original structure of the T and V was conceptualised by Benor and Harrison (1977) to facilitate the implementation of World Bank assisted Agricultural Development Projects in many of the developing countries. However, its operational structure was reviewed by Mijindadi (1993) to accommodate the WIA component in Nigeria's ADP system. Under the current dispensation, the entire state is divided into zones, blocks and cells for effective field level operation and supervision. There are field visits and training programmes conducted by Subject Matter Specialists (SMS) and other extension staff as well as the farmers. In the process, extension personnel are constantly updated with adaptive research activities and Monthly Technology Review Meetings (MTRMs) (involving researchers from research institutes and universities). The training sessions provide opportunities for field staff to acquire knowledge on technologies required to meet identified field problems while at the same time providing researchers with a better grasp of field problems. Other features of the T and V approach to extension services include: farm trials on farmers fields which implies demonstration to farmers; regular and fixed schedule on farm visits and the use of the print and electronic media to enhance dissemination of farm innovations.

The WIA component of the ADP has the primary objective of increasing the productivity and incomes of women farmers, while the specific objectives of the programme include the following:

- (i) Identifying the constraints faced by women farmers.
- (ii) Source and where necessary collaborate with research institutions to develop suitable technologies to meet identified constraints and meet identified needs.
- (iii) Ensuring timely extension support for women farmers in the area of agricultural production processing, and utilization (with greater emphasis on production).
- (iv) Providing advice to women on the formation of associations so that they can gain access to farm inputs and credit.
- (v) Encouraging diversification of women farming activities to small scale production enterprises such as small ruminants; poultry, fisheries and piggery.
- (vi) Introducing labour saving technologies in the activities of women farmers.

In an attempt to realise these lofty objectives, the extension services in every state in Nigeria has extension workers at all levels of its operation. At the ADP Headquarters, there is the Head of Women in Agriculture programme. She has the overall responsibility for planning and implementation of WIA programmes. She is assisted at the headquarters by a subject matter specialist (Deputy Head WIA programme).

At the Zonal levels, there are SMS (WIA) who supervise and monitor the implementation of WIA programmes at the zone. More specifically, they liaise with research institutions to source relevant technologies, develop production message, participate in field problem identification surveys and trainings. In addition, it provides over-all support to Block extension agents who are essentially village extension agents. The WIA Block extension agents who work mostly with women farmers are expected to spend 70 percent of their time on agricultural production related matters and 30 percent on post harvest technology related problems.

In the final analysis, Mijindadi (1993) posits that WIA Block Extension agents have specific responsibilities to identify and organise women into groups in the eight cells in the block. It is recommended under the new dispensation that at least 30 percent of agents in the ADP are females. Furthermore, all the extension agents (men and women) are to disseminate information to all farmers where no religious/customary barriers prevent such contacts. Figure 2.2 summaries the ADP structure in an organogram.

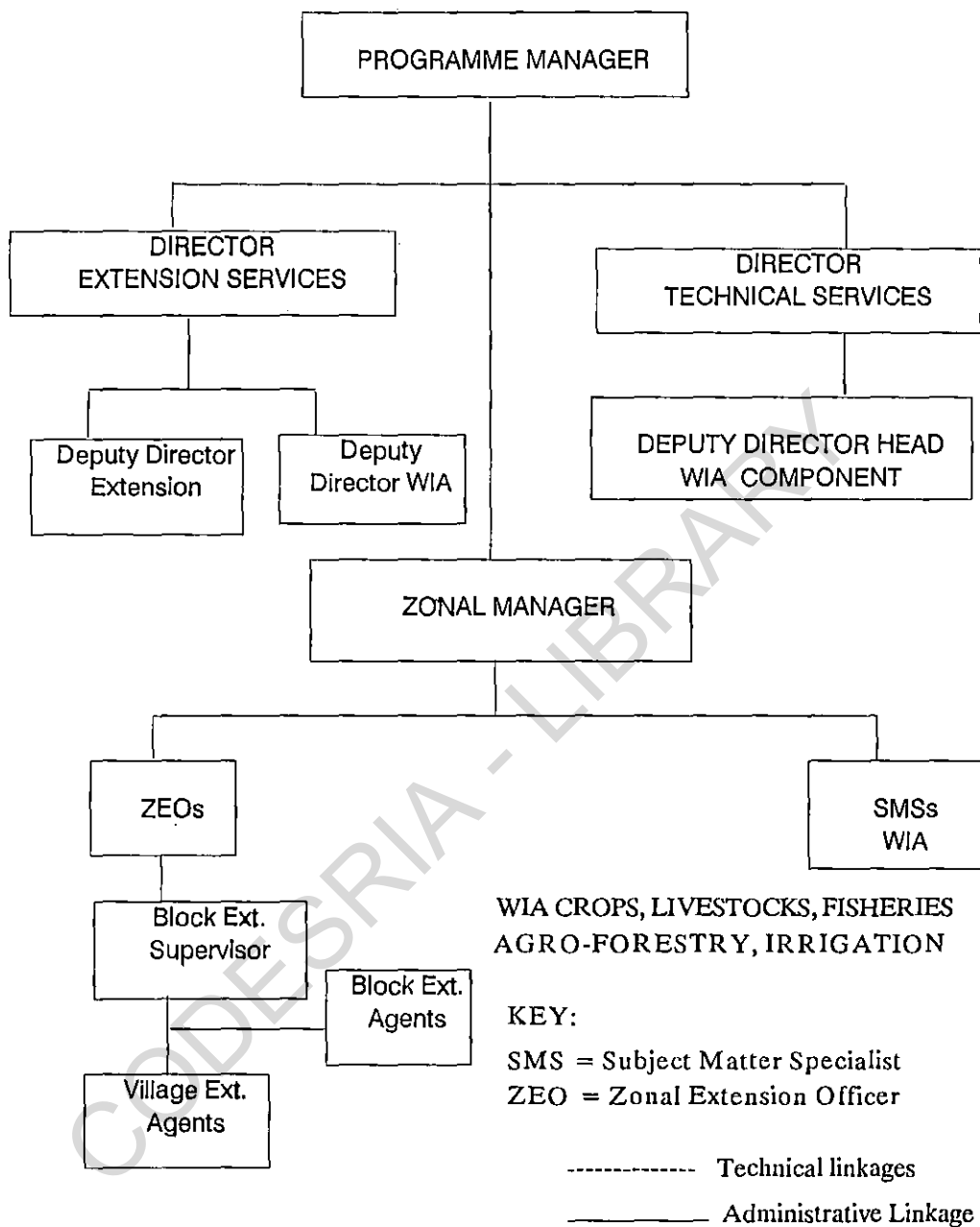


Fig. 2.2: Revised Organisational Structure In ADPs

Source: Mijindadi, N.B. (1993), "Agricultural Extension for Women – Experience from Nigeria". A paper presented at 13th World Bank Symposium on Women in Agricultural Resources Management, January 6 – 7, Washington, D.C.

2.3.3 The practise of pudah (seclusion) and women farmers in Northern Nigeria

The concept of pudah is a universal phenomenon. It is practised in different parts of the world under various cultural orientations. Pudah simply means keeping women out of sight of all men except from their husbands, children and fellow women.

According to Kidwai (1976), pudah is commonly practised in India and women are usually confined to a house-hold. This practice is also found in other cultures as well. For instance the Greek culture, known for its art and philosophy, tolerated among other inhabitants those people who always keep their women folk separate from men. Under the Grecian Law, a woman had to live a strictly in-door life. In essence, the chastity of a Greek woman was a precious thing which was highly esteemed.

It was in an attempt to avoid the indiscriminate intermingling of men and women common in many societies, perhaps the result of western civilization in the 20th century that pudah has become a common phenomenon. Muhajir (1974) reported the Islamic dimension to pudah practice in the muslim world. He posited that Islam enjoins women to stay in the house and not straying about displaying their finery. That is why Islam exempts women from the responsibility of maintaining the family. Her duty is to cooperate with the husband in the management of the household and proper up-bringing of the children. Even though, Islam does not forbid women from going out of their houses on business, it warns that she, must do so with

utmost modesty, and observing the requisite decorum without showing herself off. Therefore, seclusion is not a hindrance to women in pursuing their legitimate business as men do.

The requirement of Islamic pudah and the structure of Islamic social order regarding women's public appearance occupies an important position under this pillar. Thus all rules about restrictions between men and women are intended to safeguard against moral slips. This assertion is further supported by Kidwai (1976) who strongly argued that "seclusion of women in the house-hold is fundamental to the oriental conception of avoidance of sex relation and chastity of women". This concept is observed in many parts of the world. For instance, the industrial revolution in England ended up throwing upon the crowded cities an army of peasants and rural craftsmen who were unable to support their families. Consequently, women were brought into the economic field for the first time in history (Kidwai, 1976). Other circumstances in history include family tie dissolution due to movements in France for the popularisation of sex equality. The First and Second World Wars also provided opportunities for women to rub shoulders with men in all fields of life. Later, the world was to witness an unprecedented large numbers of American women being admitted into the armed forces.

The implication of the foregoing analogy is that the culture of seclusion of women is a universal phenomenon. However, it is evident that despite the practice of pudah in northern states of Nigeria it has not hindered

occupational performance of women in agriculture, rather it has enhanced their chastity and concentration. In northern Nigeria, reports show that both secluded and non-secluded women farmers are actively engaged in agricultural and other income generating activities (Longhurst, 1982; Jackson, 1985; Olayiwole, 1984). Also, women farmers manage their own farms or hire agricultural labourers. Irrespective of their pudah status (Weidemann, 1987), proceeds from farm activities are used to purchase livestock, personal items, and gifts for ceremonies. However, from socio-cultural perspective, Imam (1992) posits that "seclusion has been used too very often as a mark of husband's status". Therefore, the higher the husband's status or wealth the more rigid are the restrictions on the wife's mobility. The reasons advanced by men in effecting pudah practice in their families are strongly supported by various interpretations from the Qu'ranic verses and Hadiths.

2.4 AGRICULTURAL DEVELOPMENT AND COMMUNICATION PROCESS

Within the paradigm of innovation diffusion process, the social structure reveals that there are interdependences existing between agriculture communication and development.

2.4.1 Agriculture and development

Agricultural development is an integral part of national development. It is that aspect of development that is related to agrarian reforms. Consider-

ing the contribution of agriculture to the socio-economic development of many countries, several scholars have postulated several theories linking agriculture with national development. Within the context of several development paradigms postulated in the field of agriculture, communication, sociology and economics there are evidences to show that changes are taking place in the agricultural sector across the globe. Therefore, such changes can be viewed from contributions of agriculture to the national economy. However, the general goal of development initiatives, is total transformation in the quality of life of the people or target beneficiaries of development programmes. In development process, people are not only the most important means, but also the ultimate end of development. Therefore, agricultural development can be viewed as another arm of development which connotes improvement in the principles and practise of agriculture given both human and material resources that will result in maximum output from a combination of minimum input (s). This assertion is further corroborated by the views expressed in Beltran (1974); Bryant (1978); Hurst (1978); Havelock (1979), and Olawoye and Ogunfiditimi (1989). These explain the processes involved in societal transformation from rural, communal, agrarian society to urban, contractual and industrial state system.

In general, development has been viewed from a multi-dimensional perspective. These are related to political, economic social, psychological, cultural and ecological phenomena at almost all levels of human activity. Consequently, several schools of thought have continued to view develop-

ment from the economic, social or modernisation and technological perspective. First, the economic theory as observed by Mowlana and Wilson (1988) was that societal development is an economic activity. This emphasizes increase in per capita income and changes in society as a result of individual economic power. For instance, Rostrow (1960) postulated the stages of growth in the communist manifesto. The stages include the traditional society; the pre-condition for take-off; the take off stage; the drive to climb to maturity and the final stage of a high level of mass consumption.

The Communist manifesto was based on the assumption that a steady increase in per capita income will be achieved after a successful transition through various stages. In its conceptualisation, the traditional society is characterised by high population, submerged in a vicious cycle of poverty, static and value system geared towards fatalism. Stage two is of great significance to societies undergoing transition where certain pre-requisites came to be fulfilled as a pre-condition for take off. However, during the take off stage, barriers to steady growth are achieved through increased savings and investments. Furthermore, new technologies spread in agriculture, industries and political ideologies to various segments of the society. It was assumed that this development would bring about the drive to maturity, characterised by high level of mass consumption, extremely buoyant economy and self sufficiency in basic needs.

The modernisation theory postulated by Lerner (1958) corroborates earlier conceptualisation of development from a social perspective, that is, the relevance of development efforts to the existing circumstances of mem-

bers of a given society. This is explained by abundant employment opportunities, access to health and educational services. The modernisation theory attempted to explain the way societies pass from traditional to transactional stages through modernity. This postulation influenced eminent sociologists to conduct researches into the process of social change. And finally, the concept of technological change has been subscribed to in recent years because of the level of sophistication in the industrial evolution in different societies. For instance, the use of mechanical implements in agriculture varies from simple to complicated automated machineries. To this end, the generation of hi-tech technologies, on the one hand and the technical know-how to cope with such equipment on the other hand is a clear manifestation of the level of development of a given society.

Despite the attractiveness of these theories, several countries within the enclave of the United Nations have suffered more under-development, more poverty, more under-employment, more malnutrition, more illiteracy, and poorer health in the rural areas than ever before (Chauvin, 1993). Similarly, Crocker (1993) observed with dismay that development initiatives of the past three decades were well-intended but were not devoid of terrible human costs especially to the poor and vulnerable groups. Therefore, there is need for policy reorientation, that will result in development decisions with a "human face". It is against this background that Mowlana (1967) recognised the need to reflect the thinking of the people from developing countries on the basis of their cultural and social philosophies. This is because in many traditional societies behaviour is governed by custom not

law. This can be observed in some societies where individual's position is either ascribed or inherited rather than achieved. In conclusion, all development programmes in the areas of agriculture, health, education, population control and environmental protection must take into consideration the socio-cultural realities within the circumstances of target audiences of such development programmes. Thus, development should be defined in relation to sustainability and of course its relevance to the socio-cultural circumstances of the people affected by changes inherent in the development process. In other words, development should be those changes with a "human face" or that are human centred. This implies that development is that conscious effort aimed at bringing about total transformation in the quality of life of the people. Therefore, development can only take place if the factors related to it have a positive impact on the circumstances surrounding human existence. At this juncture, development can be defined as all processes that bring about improvement in human life; long and healthy living, access to knowledge and availability of sufficient resources for decent living standards, conducive social, political, economic and cultural atmosphere needed for peaceful co-existence or national stability.

2.4.2. The concept of communication in agricultural development

Unsuccessful attempts have been made by communication scholars to arrive at a universally acceptable definition of communication. However, quantitative and technological dimensions to communication have received

greater emphasis from both scholars and policy makers over the past few decades.

Communication is a universal phenomenon. It is linked to all human activities. In development, the need for continuous interaction especially in agriculture can not be over emphasised. Experience has shown that failures of governments, development programmes, and even strifes between nations, communities, friends, relatives, group members and families alike are traceable to communication breakdown. What then, is Communication? Communication is what one does rather than something that occurs on its own. It is a process by which an idea is transferred from a source to one or more receivers with the intent of bringing about desirable changes in their behaviour.

Many scholars subscribe to this definition because it is assumed in this context that the purpose of communication is to bring about alteration in attitude, knowledge and skill (AKS) of the receiver. This is relevant to the practice of agricultural extension and similar development programmes (Bordenaave, 1977, Williams and Olowu, 1990; Obilade, 1989; Mowlana and Wilson, 1988). However, looking at communication from the transactional perspective as postulated by Rogers and Kincaid (1981), it involves exchange of ideas between two or more individuals in an attempt to arrive at a convergence in meaning. Essentially, effective communication takes place when there is meaningful sharing of experiences among the key players. It is against this background that Olawoye (1991) posited that appropriate

communication strategies with rural women farmers is an important aspect of development process. The implication of this assertion is that agricultural extension process is characterised by communication agenda that emphasises "who produces what message and distributes it through which channel, under which condition to who with what intention (purpose) and with what effect".

2.4.2.1 Communication models

Several models have been postulated in communication and many of such models have significant relationship with agricultural extension dissemination. Some of the models that are directly linked to agricultural development include;

- (i) The linear model or "mathematical model"
- (ii) The transactional model
- (iii) The cyclical model
- (iv) The problem-solver model
- (iv) The social-interaction model
- (v) The diffusion model
- (vi) The Programme package model
- (vii) The induced innovation model; and
- (viii) A need based integrative model.

The Linear model or "Mathematical model": The linear or mathematical model of communication originated from Shannon and Weaver's graphical perspective to communication. According to McQuail and Windhal (1981) communication here is described as a linear, one way process. The model states five functions to be performed and identified a dysfunctional factor (noise). It may be described as presented in Figure 2.3.

The linear or "Mathematical model" could be explained, based on the functions of the elements of the model. First, in the process of communication, the information source produces a message or series of messages to be communicated. In the second step, the message is translated or converted to signals by a transmitter. The signals are moderated and adapted to the channel to which the receiver can be reached. The function of the receiver in this process is to reconstruct and refine the message received through the signal. The message received then reaches the destination. However, the signal is vulnerable to interference which may occur as a result of noise. For example, noise or interference occurs when agricultural information is broadcast on the radio and farmers are listening in groups and at the same time some farmers are arguing about the content of broadcast message. This may result in many signals, consequently, there may be differences between the transmitted and received signals. The implication of this, is that the message produced by the source and that reconstructed by the receivers do not have the same meaning.

Criticism against this model is that of the passivity of the receiver in the communication process. The receiver does not have a direct input in to the communication process.

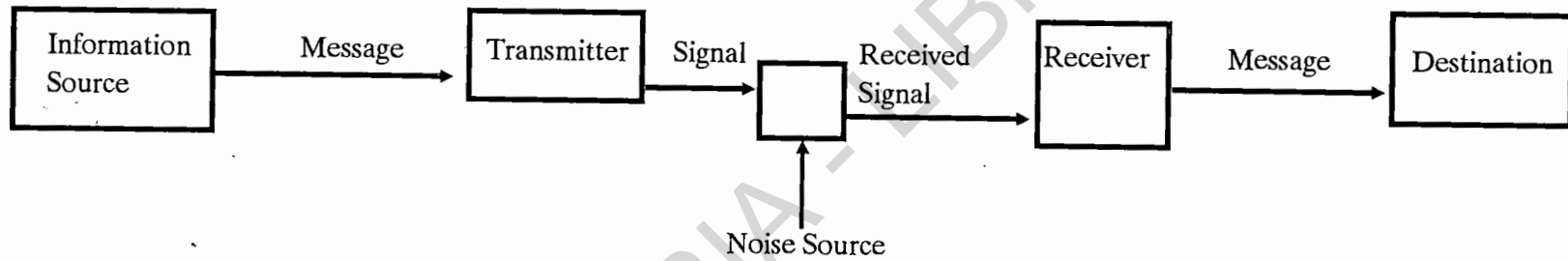


Fig. 2.3 Shannon and Weaver's Mathematical Model

Source: McQuail, D.S. Windahl (1981) *Communication Models for the Students of Mass Communication*. London, Longman Group p. 12.

This results in the inability of the sender to realise that sent and received message is always identical. This explains the reason why many development oriented communication messages fail. Similarly, due to its linearity and lack of feed back the effect of the communicated messages on larger audiences can not be ascertained.

The transactional model: According to Detheer and Ball-Rockeach (1982), the transactional model of communication explains the processes involved in the exchange, of ideas between the sender and receivers in an attempt to arrive at a convergence in meaning. In order to achieve this, the communication process must be insteractional. Both the sender (source) and the receiver must be actively involved in the exchange of ideas. Figure 2.4 shows that the sender is the initiator of the communication process since he has the need to get something (messages) across to the receiver.

Thus, in a general sense, there is an intention to communicate with or to receive. This implies a sender, channel, message and receiver interaction. The model can be explained as it relates to action on others, interaction with others and reaction to others involved in the exchange of ideas. The major asset of this model is the feedback component which gives the source the possibility of adapting more effectively its way of communicating to the destination. However, criticisms against this model is that adequacy of feedback is questionable. Because in a mass audience and mass media channel relationship, the sources can receive only limited or indirect feedback

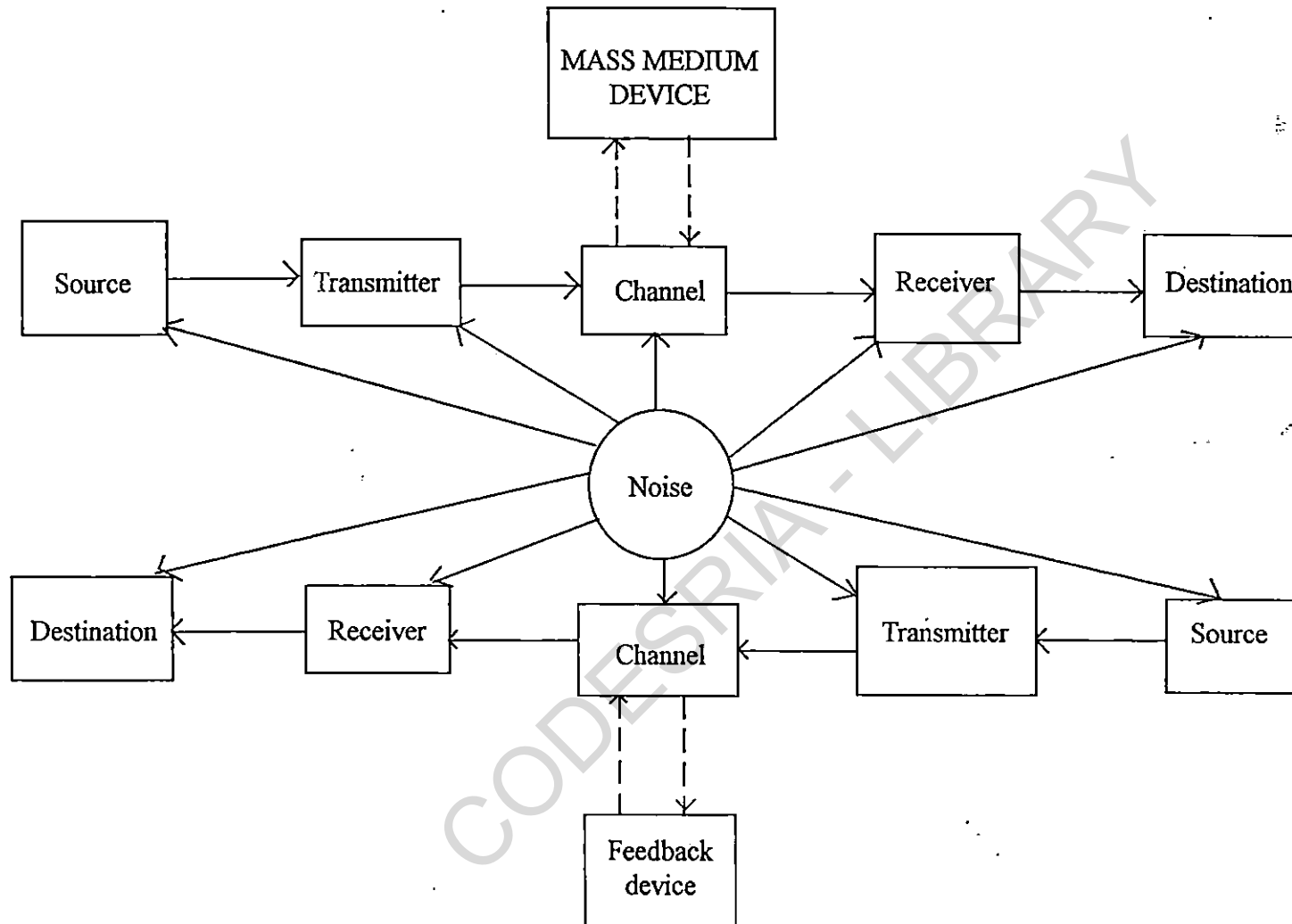


Fig. 2.4: The transactional model showing feedback Mechanism as developed by DeFleur, M.L. and Ball-Rokeach after Shannon and Weaver's Model
 Source: DeFleur, M.L. and S. Ball-Rokeach. (1982) *Theories of Mass Communications*. New York, Longman Inc. p. 13.

from the audience. Furthermore, the chances that noise could be present at any point in communication process is very high. When and wherever noise occurs in the communication process, it could result in distraction and so negatively affect all the other elements of the communication process. Consequently, there is limitation to the perfect convergence in the intended meaning by the source and receiver.

The cyclical model:

The cyclical model of communication postulated by Severin and Tankard (1992) attempts to explain the behaviour of the key actors in the communication process. The model identifies the key actors (receivers and senders) of communication messages. The acting parties are described as equals, performing identical functions of encoding, decoding and interpreting of message content (Fig. 2.5). Encoding is at the sender's end of the model while decoding is at the receiver end of the model. Encoding means that the message is translated into a language or code suitable for the means of transmission and the intended receivers. Decoding, on the other hand, refers to the re-translation of the message in order to extract meaning. In mass communication, encoding can refer to technical transformations necessary for the transmission of signals and also to the systematic choice of words, pictures and formats based on established procedures and the expectations held about audience experience.

The criticism against this model is that the model assumes a feeling of equality in communication. However, contrary to this assumption, both

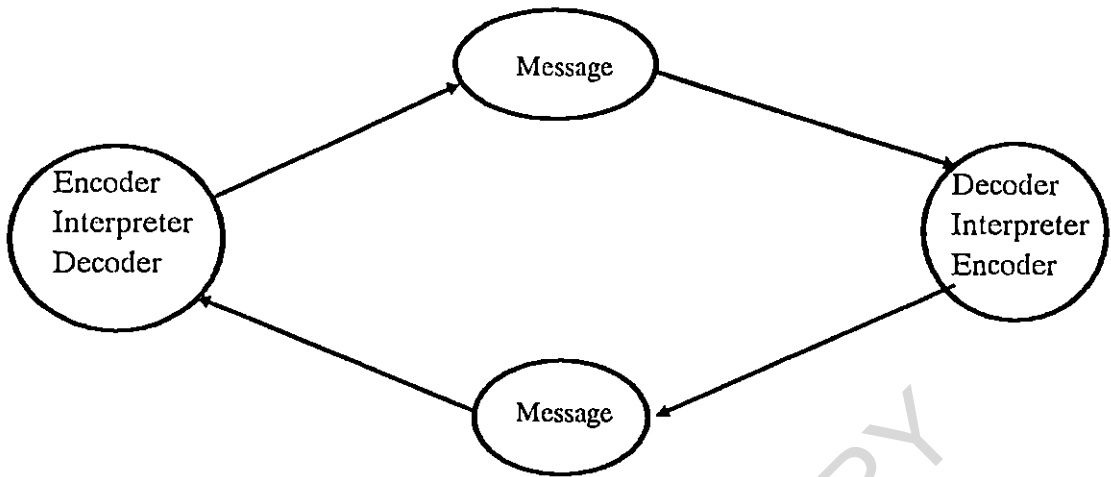


Fig. 2.5: The Cyclic Communication Model

Source: Severin, W.J. and J.W. Tankard (1992) *Communication Theories: Methods, and Uses in the Mass media*, New York, Longman Publishers, p.47.

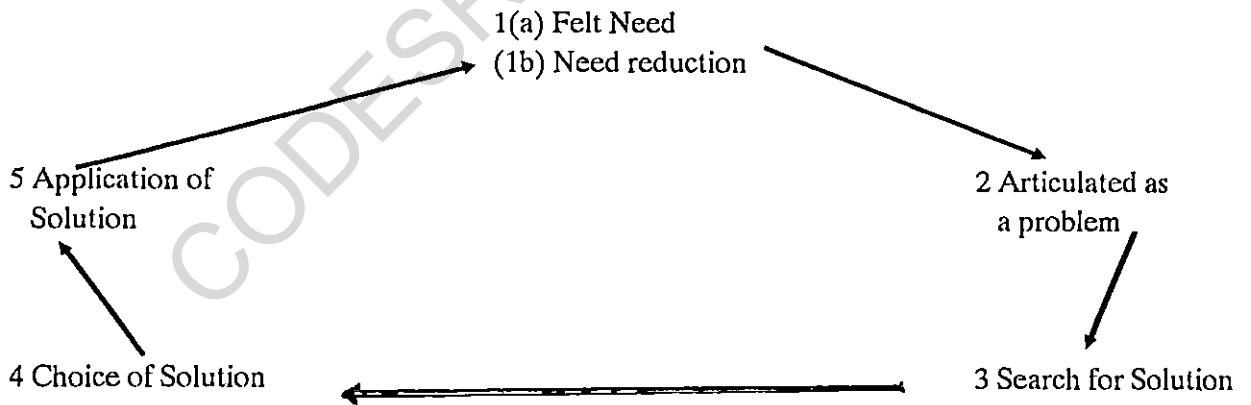


Fig. 2.6 Problem Solver Model

Source: Havelock, R. (1979) *Planning For Information: Through Dissemination and Utilization of Knowledge* Centre for Research on Utilization of Scientific Knowledge, University of Michigan, Ann Arbor.

human and material resources available for use in communication process are not equal or are quite unbalanced. (Severin and Tankard, 1992).

The problem solver model:

Within the concept of research dissemination and utilization in agricultural development process, the problem solver model has been recognised as a veritable strategy for effective communication. According to Havelock (1979) the need of the clientele whether stated, implied, or assumed, is the starting point of knowledge utilization analysis. This is why many authors subscribe to the collaboration with the clientele system in diagnosis of the need system. The model shows that diagnosis of the clientele system's needs are essential ingredients of the change process (Fig. 2.6).

The stages indicated in the model has great implication for technological advancement in agriculture (based on generation - dissemination - utilization, relationships). The effectiveness of the model depends on the reciprocal and collaborative relationship that exists between researchers, practitioners (extension agents/media practitioners) and farmers (end users). The first stage involves identification of felt needs of the clientele through diagnostic survey or clientele environment situation analysis. Such needs are articulated into problems in stage two. In stage three, attempts to search for solutions are made in the process of priority setting and goal establishment. The fourth stage involves evaluating of possible solutions and

selection of the best alternatives. The fifth stage involves the application of the best solution in a real situation. This leads to a reduction of the original need (1b) if the solution is right. If it is not right the cycle starts all over with stage (1a) being re-initiated and the cycle is repeated until a solution which is truly needed is identified and consequently disseminated to others through selected suitable medium.

Criticisms against the problem solver model is its over generalization based on the assumption that clientele problems are uniform and solutions to such problems are universal. In addition, the concept of need reduction is biased. Psychologically, human behaviour is sometimes complex, solutions to one problem may generate multiple problems, therefore, the circle is continuous, both the researchers and practitioners are likely to be frustrated out of the cycle with multiple generation of needs.

The social interaction model

The social interaction model is an extension of several models within the diffusion and utilization process. The concept of diffusion and utilization process emphasises diffusion of innovation in stages. It is a measurement of the movement of messages from person to person and system to system. This phenomenon explains the two-step flow of knowledge in communication. These two steps flow theory involves the flow of ideas from the mass media channels to the opinion leaders in society who then pass the information via interpersonal channels to their subordinates. This is purely a product of social interaction within a given social system. Havelock (1979) argued that

social interaction theorists do not view society as a systemic unity, rather they see the society as a network of roles and channels of communication with organisations; formal and informal associations.

The criticism against this model is that several factors could affect the information generated during the period and subsequently invalidate dissemination efforts. In addition, the idea that information received by opinion leaders will "trickle down" to their subordinates hardly happens in reality. Media practitioners actually need more counselling and objective selection.

In another dimension, Schramm and Lerner (1976) identified other communication models that are related to agricultural development processes and are summarised on Table 2.2

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Table 2.2

Communications considerations involved in successive models of agricultural development

Indicator	Communication Models		
How gains occur	<p><u>The Difusion model</u> By wider diffusion of demonstrated improved farming practices.</p>	<p><u>The package programs model.</u> By Identification of packages of Inputs that dramatically increase output on farms and regions where they are applicable.</p>	<p><u>The induced innovation model.</u> By responses within the system that create a steady flow of innovations and needed institutional changes as costs and potential benefits change.</p>
Purposes of Communication	<p>To motivate farmers to consider the possibility of change; to convey factual data needed in adoption of specific improved practices.</p>	<p>To insure that all needed inputs are available at proper times and appropriate locations.</p>	<p>To ensure that awareness of costs and benefits will generate prompt technological and institutional responses.</p>
Main directions of message flow	<p>Primarily from those charged with identifying better practices to those expected to adopt them.</p>	<p>Inter- and Intra agency communication to coordinate availability of all elements in the package of Inputs.</p>	<p>Two-way flow of information about product and factor markets to facilitate prompt responses throughout the system.</p>
Critical Communication requirements	<p>Mass Media: Local extension workers and the Informational materials to support them.</p>	<p>Channels for liaison among agencies. Vertical communication from the field to the levels at which agency decisions are made.</p>	<p>To convey market signals to those allocation scientific and technical resources, those conducting research in agriculture, and those who can take initiative in modifying institutions.</p> <p>Modernisation of marketing system by creating informational and communication linkages needed for effective functioning of factors and products.</p> <p>Information channels for effective organization and management of scientific and technical resources.</p> <p>Farm organizations to give effective voice to farmers' needs for new technologies and for modifications of institutions</p>

Table 2.2 shows the significance of various communication models of agricultural development. Schramm and Lerner (1976) described the models in relation to agriculture. The diffusion of innovation model stressed that information flow through certain channels over time among members of a social system. Diffusion of innovation model reveals that individuals must pass through certain stages in adopting new techniques (awareness, interest, evaluation, trial and adoption or rejection). Criticisms against diffusion model is that it has an inherent pro-change bias. It assumes that the innovations recommended are good and should be adopted by all. It failed to include any test of whether the technologies it promoted truly suited the needs of the users. And its bias or exclusive focus on the "opinion leader" and the early adopter often left out those most in need.

The package programmes model assesses all exogenous or externally generated messages on how individual farm operators needs are met. The critique against this model is its undue emphasis on externally generated technologies that might undermine the potentials of Indigenous Knowledge System (IKS).

The induced innovation model accorded great power to the market and called for improvement in market communication linkages. It also stressed the usefulness of farm organisations as channels of communication and presume to make the system respond to their needs. For example, price is an indicator of marketing efficiency where changes in demand and supply of products and related factors determine interaction among farmers, research

institutions/marketing agencies and private agricultural entrepreneurs. Criticisms against this model are that there is heavy reliance on the market mechanism and on profit motivation which may not be enough to improve the lot of subsistence farmers, landless peasants, and other low income rural farmers. This strategy could be effective only under commercial oriented agriculture.

A need based integrative model

Nwosu and Megwa (1993) proposed the need based integrative model. This model has an advantage over the dominant paradigms which assume that an individual is incompetent or incapable of making good decisions without some external support. This is based on the erroneous assumption that information provided to individuals generally meet their needs. Furthermore, the proponents of this model posit that there is a discrepancy between the words of government officials and their deeds. This is what they referred to as "deep gulf" between the information needs of farmers, on one the hand, and what the government officials sometimes think the farmers' needs are, on the other.

Four key variables involved are represented in Figure 2.7; farmers; technology of communication; the government; and the sub-system. Each of these variables are interdependent for effective functioning of the model.

Further explanation of these key variables show the integrative nature of the model. For instance, farmer A is involved in output level where contribution is in terms of need identification and establishment of priorities. At the state (level D), depending on government agency, it assists in need identification. At level E, programme disseminated through technology of communication is based on identified needs of the farmers. Similarly, farmers at level B are at the output level. On the other hand, state D perform monitoring, evaluation and coordination function. Loop F indicates the feedback mechanism that is inbuilt in the model at all levels. This model is further supported by Fett et al (1974), who advocated for dialogue with the farmers rather than merely emphasizing more top-down communication in place of bottom-up approach. This is because greater effort is expended on diffusion of information but little on infusion. Clarification was however made between feedback and infusion. Feedback, as generally conceptualised, as the response to a message received, while infusion is more of an elicited response of a felt need. The integrative model, despite all the acknowledged potentials has been criticised for lack of clear focus. The farmers who constitute the bulk of its clients are of various socio economic status, different farm holdings and hidden aspirations. Therefore, uniform messages can not be planned for them.

2.5 THE ROLE OF COMMUNICATION IN DEVELOPMENT

Eminent scholars of communication have identified various roles of communication in development process worldwide. (Lerner, 1958; Rogers,

1962; Schramm, 1964; Rogers and Shoemaker, 1971; Schramm and Lerner, 1976; Bordenave, 1977; Moemeka, 1981; Hornick, 1988 and Olowu, 1990b). Communication experts concerned with rural development have similar notion about human communication based on exchange of ideas or sharing activities, opinions and feelings with the purpose of creating or effecting change in behaviour. It is against this background that Olowu and Yahaya (1993) cautioned that any laudable development programme to attain the desired change, the communication system adopted should be carefully selected. Similarly, Semena (1984) posited that communication is an essential part and an accelerator of rural development. There are several other evidences from international agencies such as Food and Agricultural Organisation of the United Nations (FAO) and United Nations Educational, Scientific and Cultural Organisation (UNESCO) among others, that evolved functional development support communication strategies for effecting change.

Hornick (1988) provided a functional analysis of the place of communication in development. Such functions were enumerated from the view of its impact or the political benefits accruing to a sponsor and the effect of the programme (negative or positive) on the target audiences.

Hornick (1988) identified 11 fundamental functions of communication in development. These include the following:

- (i) Communication as low-cost loud speaker.
- (ii) Communication technology as institutional catalyst.

- (iii) Communication as political lightning rod.
- (iv) Communication as organiser and maintainer.
- (v) Communication as equalizer.
- (vi) Communication for improvement in quality.
- (vii) Communication technology as accelerator of interaction
- (viii) Communication as legitimator/motivator.
- (ix) Communication for feed forward.
- (x) Communication as magnifier of dependency/integration.
- (xi) Communication programmes for creating and supplying demand.

(i) **Communication as low-cost loudspeaker**

Communication is considered as a low-cost loudspeaker because it is capable of reaching target audience at relatively cheaper cost. For instance, it cost less to reach farmers in rural areas through radio broadcast than on individual or face to face basis. This is in view of the high cost of transportation in rural areas.

(ii) **Communication technology as institutional catalyst**

The introduction of any communication technology could be used by politicians to mobilize people to support their programmes. In the process, it is used as a campaign tool to achieve considerable success in programme implementation. For example the mass media are widely used in Nigeria to

popularise family planning programmes and expanded programme on immunisation (EPI).

(iii) Communication as a political lightning rod

Some of the programmes embarked upon by the government are politically motivated. Therefore, the role of communication in this case is "image shaping". That is, the government uses communication to promote its image and its achievements in development oriented programmes.

(iv) Communication as organiser and maintainer

The concept of innovation diffusion process is an important phenomenon in agriculture. This covers the process from the stage at which people got to know about the innovation to the period of its being put into early use by the farmers. However, sustaining such use depends on the communication devices used by change advocates.

(v) Communication as equalizer

In view of the limited resources for equitable distribution of development programmes in the areas of health, education, agriculture and environment. There exist disparity in access among the people in any given social systems. Therefore, communication has potentials as an equalizing factor irrespective of location. Both urban and rural people can receive a signal sent through mass media channels.

Similarly, people are free to choose any channel they feel is appropriate to them as information source.

(vi) Communication for improvement in quality

The use of communication technology is capable of up-grading the quality of information output. According to Hornick (1988), if the potential of each medium is considered, it could bring about instructional results equal or better than face to face instructional device. Agricultural development agencies could maximise the potentials of various channels of communication at their disposal and bring positive change in attitude, knowledge and skill of farmers.

(vii) Communication technology as accelerator of interaction

The use of radio farm forum technique in agricultural information dissemination facilitates interaction among farmers. Also, farmers are able to discuss broadcast content and exchange ideas. In many developing countries the use of radio farm broadcast is a popular communication technique.

(viii) Communication as legitimator/motivator

The mass media have significant influence on individuals psychologically. Audiences of mass media believe that if something is important it will surely be broadcast over the mass media. This is what sociologists Paul Lazarefeld and Robert Merton (1948) referred to as "Status conferral" function of the mass media. In addition, Hornick (1988) identified the legitimising function of the mass media. This role is linked to the sensitization role in policy making and justifying national attention. That is, it draws the attention of policy-makers and citizens to a particular problem and motivating them to take appropriate actions.

(ix) Communication for Feed-forward

In agricultural development, communication is a two-way process. This involves obtaining information from farmers as an input into packaging of information for farmers to use. That is, communication starts from the farmers and ends with the farmers. This confirms Obilade's (1989) postulation about the functions of feed-forward in communication. These include goal setting, establishment of expectancies and planning contingencies.

(x) Communication as magnifier of dependency integration

When sophisticated communication technologies are used for information dissemination, the users are usually left at the mercy of those who own and control the technology. To effect a change in mode of operation and content will depend to some extent, on the willingness and aspiration of the managers or originators of such technologies. This trend has resulted in government domination of national information network in government controlled media. Therefore, the idea of media autonomy remains a difficult task to achieve.

(xi) Communication programmes for creating and supplying demand

In developing countries, the demands for improvement in the areas of agriculture, health, education and environment is on the increase. Unfortunately, these demands are quite enormous that the government can not satisfy all. Similarly, solutions to some problems often result in several others. For instance, radio farm forum facilitate information dissemination to farmers, while there is limited input from the farmers to the moderators of such programmes.

2.6 Mass media types and use pattern

The concept of mass media has been part of communication studies for several decades now. The mass media represent the system of communication that involves the use of various mass mediated channels of communication. The mass media are used to disseminate information to diverse audiences. Mass media activities include message-design; selection; transmission, utilization and feedback. Some of the mass mediated channels of communication include radio and television, large circulation print publications (newspapers, magazines and posters), the cinema and public video viewing centres. Several communication studies have shown that these mass mediated channels of communication remain popular both in developed countries and the third world.

2.6.1 Mass media types: Some of the mass media channels used for information dissemination in Nigeria and many other developing countries are described as follows:

Television

Despite the limitations associated with television, it has a significant advantage over radio and the print media in information dissemination process. Not only can the animator be seen and heard while using the television but his demonstrations can be followed progressively. Thus television is characterised by the presence of motion pictures. Messages and pictures are produced and transmitted at the transmission stations while individual viewer could see such transmitted programmes through a per-

sonal television monitor. In Nigeria, the television is a popular medium of communication. Each state has a national television station, Nigeria Television Authority (NTA). While many states now have their own individual state television stations, these are independent of the NTA. In the meantime, a few private television stations are been established.

The Nigeria Television Authority headquarters claims that it has an audience of 30 million viewers nationwide about 34% of the entire Nigerian population. However, the rural audience who constitutes about 70% of the population are unable to purchase television receivers. This is further worsened with the dearth of rural electrification which makes television a medium of the urban elites. Ajia (1990) reported that the distribution of television in Nigeria is 6 television sets per 100 heads of population as compared to Egypt's 10 television/100 heads of population.

Government's attempts at using television to achieve purposeful changes in the social, economic and political structure in some areas of the country was made between 1974 and 1976. Moemeka (1981) reported that the then Bendel (now Delta and Edo), North Central (Kaduna and Katsina) and Kano (Kano and Jigawa) states tried to use television for rural education programmes and farming hints. The government provided free television sets and electricity generators to villages. However, projects were jettisoned in 1976 because it was marred by problems of getting well trained operators, maintenance of sets and funding despite the fact that the rural audience showed much enthusiasm about the projects. Meanwhile, Olowu (1991)

investigated an agricultural programme on television and identified the potentials of television in increasing farmers knowledge in 21st century Nigeria.

The print media

Chartrand *et al* (1983) identified newspapers as the first mass media. Also agricultural information received prominence in its pioneering publications in Sterling, Massachusetts as far back as 1792. Since then development communication advocates have recognised the need for the utilization of the print media in development process (Park 1969; Axinn and Throat, 1972; Olowu, 1990, Lawani, 1990 and IITA (1991). In the same vain, Moemeka, (1981 and 1990) re-echoed the potentials of the print media based on its enduring qualities. These include its preservation potential where "content erosion" is minimal compared to other mass media channels. It can form part of life long assets. It is published using some of the cheapest publication materials. Printed materials with expired message content are recycled for further use especially by market women.

In Nigeria, print journalism has received tremendous revolution. According to Ogunsiji (1989), print journalism started since 1846 with the establishment of a printing press at Calabar by the Presbyterian Mission. The missionary era witnessed the establishment of Iwe Iroyin in Abeokuta between 1854 and 1867.

The emergence of indigenous newspapers started in 1914 with many of such newspapers like the *African Messenger* which collapsed five years after.

It was reported by Omu (1978) that the establishment of Nigerian *Daily Times* brought some dynamism and a new orientation to the Nigerian newspaper industry, although the colonial administrators made it a subsidiary of the London *Mirror* in 1948 so as to serve British interests properly.

According to Ogunsiji (1989), *Daily Times* became stronger financially, thereby crippling rivals and bestowing on itself monopoly. It became more specialised, attracted more advertisements and thus more money to lure and more correspondents in all parts of the country. In 1956, it had a daily circulation of 62,000 copies. After 1900, several other newspapers were established in Nigeria. However, competitive modern newspapers publication started with the end of the Nigerian Civil War in 1970. By 1974 almost all the states in Nigeria had newspapers of their own and more independent privately owned newspapers had also emerged. That National Library of Nigeria (1992) reported that about 133 newspapers are in circulation in Nigeria. Thirty-two of these are daily newspapers, 83 weekly newspapers, 4 fortnightly, 4 monthly and 9 vernacular newspapers. However, between 1992 and 1995 several other newspapers have emerged while some others have been out of circulation either as a result of government closure or lack of sustainability.

This trend is a clear manifestation of the enormous potentials of the print media as purveyors of information and vehicles of change. They can elicit support and empathy for development programmes in Nigeria as obtained in Brazil and other countries.

Limitations of the print media is that it is a literacy specific media. Only literate members of the society can read the message content. Non-literate members will have to depend on an interpreter before they can benefit. Most of the print media are located in urban areas and serve only the interest of the urban readers. The cover price of most print publications now are not within the reach of ordinary citizens again and the difficulties of its circulation make most of the message content outdated before many readers can read such publications.

Radio

Radio has been recognised for its outstanding qualities in mass communication. Apart from being an excellent medium for mobilization, motivation and its capability to draw the attention of its diverse audience to new ideas, techniques and latest information requiring urgent public attention. It also has wide coverage, relatively available to both urban and rural populace. Ajia (1990) reported that radio distribution in Nigeria is as low as 15 radio sets per 100 heads. However, group and household listenership is very common in many parts of Nigeria.

There are four federal radio stations in Nigeria, while each of the 30 states and Abuja has a broadcast station while a few private radio stations have also commenced transmission.

In the words of William Sweeney cited by Colle and Webb (1987),

Radio is still the most potent communication innovation since the print press. It has large audience than that of any other mass medium. The large-scale manufacture and distribution of inexpensive, battery-operated transistor radios have brought much of the world's population into an international communication network. (p. 64).

However, recent developments in communication technology reveal that cable network and satellite television possess some higher degree of sophistication than radio. However, several studies in Nigeria gave credence to radio as a major source of information to farmers among various types of mass media (Olowu and Igodan, 1989; Mohammed and Wanaso, 1993). Therefore, radio is much more realistic in terms of affordability and content relevance to the needs and socio-economic and demographic characteristics of Nigerian rural populace.

Radio ownership is a universal phenomenon, since it enjoys widespread use throughout the world. UNESCO (1988) reported that a third and a quarter of all the inhabitants of developing countries have access to radio broadcast. Therefore, consistency in programmes can provide information, promote, educate and elicit feedback in participatory processes. Thus it can be used to create and encourage diverse audience to attend or perform specific tasks from listening point. It can reach across sections of any nation - men, women and children, urban and rural literates and illiterates. Hence, Moemeka (1990) acknowledged the special position UNESCO has accorded radio as far back as 1965. He noted the potency of radio to beat distances and thus have immediacy effect. Furthermore, it beats literacy

barriers. One does not need to know how to read and write before one can learn from radio. In addition, radio lends support to attitude and opinion change. It is often a more direct and personal medium than print or television. It can be used to create and encourage audience participation; act powerfully on their imagination through its ability to create situations at different times and places (Moemeka, 1990).

Traditional media

The role of traditional media as a credible and acceptable source of information among the rural populace is not in doubt. It is apt to point out the fact that modern media are urban based and cater primarily for the few elitist groups (Brimoh, 1984). This assertion is further corroborated by Olurin (1990), who lamented that traditional methods of information dissemination have not received the attention it deserves in modern communication efforts. He further suggested that these traditional methods should be re-examined and utilized where appropriate, if the dissemination of information to grassroots is to have the desired impact.

Some of the traditional methods of information dissemination includes town criers, folk-tales, songs, comic plays, oral poetry and traditional festivals (Olurin, 1990). In many African countries, life is communal in the traditional context. Therefore, traditional methods of communication, according to Akinyele (1986) was categorised into interpersonal and long distance communication. The former involves sending messages through participants at games, festivals and other social gatherings. The long dis-

tance methods include the use of drum signals, bush fires, leaves, horn flutes and sending emissaries.

In Nigeria, and indeed many culture bound societies, traditional media nonetheless satisfy the role of modern mass media in society as earlier postulated by Lasswell (1948) and corroborated by Nwuneli (1977). The authors considered communication in its functional perspective, surveillance of the environment; correlation of the parts of the environment and transmission of social heritage. For instance, drums are used for entertainment function and communication as demonstrated in the talking drum. Such messages are only understood by adepts (Akinyele, 1986).

2.6.2 Media use patterns in developing countries

A detailed account of the use of mass media in several countries within Asia, middle-East, Latin America and Africa is presented as follows:

The Philippines:

Masagana 99

In the Philippines "masagana 99" project was launched in 1973. The main objective of the project was to increase rice yields by supplying farmers with credit facilities, agricultural inputs and timely information on agricultural concepts and practices.

According to the United States Agency for International Development (U.S.A.I.D.) (1978), the word masagana means bountiful harvest and the

"99" of the project title refers to the target yield of 99 cavans (1 cavan is equal to 44 kilograms).

The project utilized a multi-media approach with emphasis on radio. When the project began in 1973, it had 11 elements. One of the elements was the mass media campaign created to spread information and to educate the public on agricultural concepts and practices. Radio broadcast was the mainstay of the mass media component of Masagana 99. It was reported that in the Philippines, one out of every four persons own a transistor radio. Similarly, three out of every four Filipino farmers owns a transistor radio. In Masagana 99 project, the radio strategy adopted involved broadcast of agricultural programmes on over 224 radio stations. Agricultural messages were in form of advice and jingles. In addition, 125 other radio stations broadcast 50 local agricultural programmes daily. Most of the broadcast messages provided farmers information about where to procure production inputs and obtain credit to support them in executing their farm activities.

The result of this project showed that rice yield in the Masagana 99 area increased dramatically by 28% from 1973 to 1974 and by 1977 yields averaged 3.3 tons per hectare. During the same period, farmers recorded an average gain of about 118%. In the same year, the Philippines which used to be a rice importing country prior to the project exported about 140,000 metric tones of rice. Despite transportation problem, inclement weather and pest infestation, the socio-economic impact of the project on farm families was significantly felt (U.S.A.I.D, 1978).

India

In India, several communication projects have been executed. Mowlana (1988) reported that the use of mass media for disseminating agricultural information and advice to farmers has been a popular practice in India. Some of the mass media projects in India include the following:

(a) Satellite Instructional Television Experiment (SITE)

The most popular media programmes in India, according to U.S.A.I.D. (1977) is the SITE project. The programme started in 1975. The major objective of the Satellite Instructional Television Experiment was to develop and assess the potential of a satellite based instructional television system for national development through formal and non-formal educational and cultural programming to villages in remote rural areas. According to Hornick (1988), the satellite was used to beam programmes to community television receivers in 2,400 villages chosen for the experiment. Programmes were broadcast for four hours each day in four major Indian languages. The largest programming time was directed toward non-formal education in agriculture, health and family planning. Inherent in the project was a research and evaluation component. It was responsible for conducting audience analysis and needs assessment. During the broadcast of these programmes, there was regular feedback from the audience on message impact and viewing conditions. A variety of programme format was used, including drama, song and dance, puppets, lecture, demonstrations, interviews, panel discussions, and response to viewers mails.

A multi-disciplinary approach was used to determine the impact of SITE. Anthropologists lived in the selected villages for six months before SITE until three months after its conclusion. They conducted comprehensive studies on cultural and communication patterns and how they were affected by the project.

Similarly, sociologists conducted surveys on the impact of one year of television telecast on adult villages while psychologists, studied its impact on primary school children.

Based on the various surveys conducted, the most significant outcomes of the SITE project reported by U.S.A.I.D. (1979) were the successful dissemination of information to geographically and socio-economically different population. In addition, there were statistically significant gains in knowledge of preventive health measures, family planning, animal breeding, political information and overall modernity. In general, overall magnitude of knowledge gain were greater for lower castes, illiterates, females, low income groups and those reported to have had less exposure to other information sources. However, small scale farmers and landless labourers formed the majority of the audience. Feedback study indicated that instructional programmes and those with messages were preferred to purely entertainment programmes.

(b) School-On-The Air radio programme

School on the air radio programme initiated in India in August 1975 was aimed at imparting a systematic knowledge of agricultural science to the

farms listeners via radio broadcast. It was reported by U.S.A.I.D (1977) that the radio station chose literate farmer listeners who have access to radio. Agricultural Science Information was imparted on farmer listeners who are expected to subsequently disseminate acquired modern agricultural innovations to villagers hitherto incapable of interpreting or without access to complex modern agricultural information.

Trainers broadcast agricultural lessons over the radio every Sunday between 7.00 and 7.30 p.m. and key points were repeated several times throughout the 60 minutes broadcast. Questions were asked at the end of each programme. Listeners received certificates at the end of the year along with grades. Results of the School-On-The-Air radio programme showed that the trainers were between the ages of 20 and 29 years (active age with high potential for contact farmers responsibility), they were educated at high school level, and were of middle income status. Most reported listening to the lessons on their own radios and the survey report revealed that most were prone to social participation after hearing the broadcasts.

(c) **Kheda Communication Project**

Another communication project in India, is the Kheda communication project that was initiated in 1976 in Khada district. The Kheda communication project, according to Bhatia (1985), was established in response to criticism of projects being urban-biased. Kheda communication project was a balanced mixture of locally produced television programme for a primarily rural district.

The Kheda communication project had a low-power television transmitter donated by the United Nations Development Programme (UNDP). It was constructed in the village and linked with a studio and earth station in Ahmedabad, 50km away. The national government and district ruling council and local milk cooperative assisted in the project. About 651 community television sets were installed in large gathering places in 400 villages of the Kheda district. The project was designed to:

- (i) improve viewers' understanding of the reasons for their poverty.
- (ii) provide relevant information through television programmes on agriculture, health, animal husbandry etc and
- (iii) Use television to effect social change, after which society-wide economic development could occur.

The project used 90 minutes of local programmes and 100 minutes of national information to viewers of various communities. Agricultural experts met with farmers and discussed new techniques, which are taped and broadcast and their complaints were taken to appropriate authorities whose replies were taped and broadcast (U.S.A.I.D., 1986).

Statistics from various studies reported by U.S.A.I.D (1986) showed that 96% of those who watched television know the advantage of immunisation, as opposed to 60% of non-viewers. Similarly, 66% of the viewers were familiar with the proper use of fertilizer as opposed to 16 percent of non-viewers. Twenty-five percent of viewers thought that cooperative farming was a way to increase farmers incomes, as opposed to 7 percent of non-

viewers. The project gained world-wide attention when it received the UNESCO price for rural communication.

(d) **The mass media and village life in three Indian villages**

In a comparative study of village life and mass media use in three Indian villages, Hartman *et al* (1989) conducted a research on the use of mass media in the states of Kerala, Andhra Pradesh and West Bengal. The project was sponsored by the World Association for Christian Communication (W.A.C.C). The project started with participant observation by experts in communication, anthropology and sociology. It was designed to gain superficial impression of the dynamics of village life through media use habit of villagers in the selected states.

The project result showed that the use of mass media in the selected villages was very high based on the indices of media exposure. For instance 82% of the males read newspapers, while 52% claimed to read them regularly. Similarly, 21% and 52% were regularly, exposed to radio and magazines respectively. Films were found to create great interest among villagers studied. Though cinema was regarded by many as a luxury rather than a necessity or a habit. In the same vein their impact was greatest among those with higher social and economic status. Consequently, the study provided information on the way the mass communication could play a part in social change.

Thailand

Radio Farm Forum

In Thailand, the Radio Farm Forum pilot project was initiated in 1968 and took off successfully in 1975. The project was established to test the effectiveness of radio forum concept in increasing two way communication between farmers and agricultural extension agents. Radio and publications reinforced by interpersonal communications were the media used.

It was reported by U.S.A.I.D. (1977) that after the study area was systematically selected, listening groups were formed with the cooperation of village or community leaders in each of the selected eight villages. The radio farm forum project broadcast weekly radio programmes, village listening groups established, listened and discussed the content of the broadcast after each half-hour programme. They were encouraged to comment on both the programmes and the supplementary printed materials prepared by the Department of Agricultural Extension (D.O.A.E.) of the Ministry of Agriculture and Cooperatives. Listeners found local practical applications for the ideas and mentioned problems that could not be worked out among listening groups were referred through weekly reports prepared by the leaders of the Radio Farm forum (RFF) to the extension officer.

Results of the RFF project in Thailand showed that there was increased flow of information between farmers and extension agents in both directions. Extension agents constant contacts with the farmers was highly appreciated and that brought about a sense of continuity. On the other hand,

farmers tended to rely increasingly upon the extension agents in dealing with their problems and needs on timely basis. This trend gave the extension agents more satisfaction in their work. Generally, the RFF project succeeded in organising interest groups to solve shared problems and disseminating messages through various communication channels (U.S.A.I.D, 1977)

Bangladesh

"Desh Amar Matl Amar" (My Country, My Land)

The programme "My Country, My Land" focused on afforestation efforts, the domestication of animals, poultry, fisheries development and welfare of rural youth and women. According to U.S.A.I.D (1991), in Bangladesh there are an estimated two million radio sets. Consequently, with a total population of 72 million people, as many as 100 people band together to a single radio set for community listening.

In order to obtain organised feedback from the target audience, the implementation strategy involved formation of radio clubs for farmers. In addition, a one-band transistor radio was distributed to each of the clubs to enable its members listen to the farm broadcast. The effectiveness of this communication strategy has been attributed to the fact that people like listening to Radio Bangladesh.

The impact of the programme was that farmers were able to make better use of their land through local initiatives supplied by radio. Furthermore, their yields nearly doubled as a result of the use of fertilizers on high-yield seeds first heard of on radio (U.S.A.I.D, 1991).

Afghanistan

Assistance to rural broadcasting

According to U.S.A.I.D. (1978), the project was aimed at improving rural broadcasting as a means of supporting rural development activities and to test the feasibility of establishing in Afghanistan a communication system involving the use of radio tape recorders and cassettes, as well as farmers' feedback. The project's main objective was to keep farmers informed about improvements in agricultural and livestock production techniques.

The project was jointly sponsored by Afghanistan's ministry of agriculture and education in collaboration with the Food and Agricultural Organisation of the United Nations. The development support communication unit of the FAO provided communication support system that reflected the Afghan Government's goals and aspirations.

Fifty six extension agents were recruited to participate in the project. They were provided with radio sets and were requested to conduct meetings with farmers. They also, visited villages on Wednesdays when the radio programme (Village and Agriculture) was broadcast. The agents solicited farmers' criticisms, questions and comments. The project also created awareness on the existence and availability of credit, equitable means of distributing irrigation water, and the possibility of forming farmers cooperatives.

Results of post-project evaluation published by USAID (1991) revealed that farmers in the experiment acquired information that they considered

useful, tended to value cassette carried as opposed to that passed from farmer to farmer. It was discovered that 50% of the farmers who had heard the tapes, listen regularly to the radio broadcast compared to 30% of those who had not heard the tapes.

Sri Lanka

Anti-agro-chemical poisoning campaign

In Sri Lanka, poisoning by agricultural chemicals (agro-chemicals) is a major health hazard, due to the country's dependence on chemicals such as fertilizer, pesticides, and herbicides for increase in the level of agricultural production. Statistics of pesticide poisoning annually is about 16,000 people. The rural farming population is, of course, the most vulnerable to acute agro-chemical poisoning.

The objective of the programme was to create awareness among illiterate farmers who are ignorant of the dangers of most chemicals they handle. Sometimes, they test their mixtures by dipping finger into the solution to taste for strength. This programme was designed to stop the practice of using empty chemical cans and bottles to store coconut oil and other consumer liquids or even medicine. Similarly, agro-chemicals are illegally transported in the same vehicle with consumer goods such as rice, flour and sugar. They may even be stocked alongside consumer goods in stores.

Outreach training programmes were organised by the Department of Agriculture through a committee that comprised volunteers from the university, research scientists, medical specialists, environmental and plant protection officials. Farmers received training on how to use agro-chemicals safely. Besides technical training, participants learnt basic communication principles that will help them to organise seminars in the villages. Media used during training sessions included audio-visual aids such as colour slides, films, posters and field visits or practical demonstrations to reinforce classroom training.

The approach used in this project was said to be a "low-cost" strategy. At the end of the training sessions there was an increase in awareness about the dangers of agro-chemicals among rural farmers (Amarasuriya, 1987).

Nepal

Radio Nepal farm broadcast

Farmers in Nepal constitute 93% of the population. Most of the people live on subsistence farming in rural areas. In 1966, the Department of Agriculture established the Agricultural Information section. It designed and produced the Nepali agricultural programme on Radio Nepal known as Farm Broadcast. The programme was designed to provide farmers with relevant information to improve their agricultural practices.

Axin and Malik (1992) reported that the format used included a once a week 20 minutes broadcast, a dialogue to answer questions and group discussion.

Results of the farm broadcast in Nepal showed that 87% preferred listening to farm broadcast from 2.30-3.00 p.m. It was found that the programme helped in communicating useful information to farmers throughout Nepal. About 76% of the farmers who own radio sets said that the programmes provided helpful advice on how to increase crop yields, and 74% felt that livestock programmes were relevant to their needs. Listeners felt that radio programmes supplemented the advice they get from extension agents (U.S.A.I.D, 1986).

Ecuador

In Ecuador, the two radio programmes that received considerable coverage include "Radio Mensaje" and "Radio Bahai".

(a) Radio Mensaje

In 1972 a radio experiment was initiated under the sponsorship of the University of Massachusetts's non-formal education project with funds from the United States Agency for International Development (U.S.A.I.D). According to Hoxeng (1977), the project was designed to win over a mass audience through open broadcasting. The objectives were to:

- (i) heighten the listeners' feelings of self worth.
- (ii) further community development, and
- (iii) up-grade listeners' literacy and numeracy skills.

The project utilized audio cassette recorders and many tapes. Radio school centres were established under the guidance of teaching assistants (auxiliaries) who used the audio cassette recorders to record subjects that are aired on two-half hour programmes each week. The programme contained advice, poems, songs, scripture readings, dramatizations of community problems, testimonies, reading and mathematics lessons. The broadcast was in conjunction with pre-existing radio education programmes.

Results of the Radio Mensaje project showed that it had performed quite well but the programmes were not adequately edited and no significant increase in farmers self esteem was established but important attitude changes took place.

(b) Radio Bahai

Another radio programme in Ecuador is the Radio Bahai project which began in 1977. It was designed to promote education, preserve the indigenous culture and to serve as voice of the community. The project attempted to promote education, maintain the value and significance of their traditional culture and the delivery of social services. It also served as a voice of the community.

The project was self-supporting, though it received matching funds grants from the Canadian International Development Agency (C.I.D.A.). The primary audience of the project are rural Indians located in Otavalo. A farm broadcast titled "The thought/knowledge/opinion of the farms" was

broadcast for 30 minutes daily. The programme was a follow-up to initial findings that indicated disparity between information needs and services. Radio Bahai staff or station's production team visited villages throughout the region (within the 80km radius) and used portable tape recorders to record farmer's needs and concerns. The staff then visited the ministry to interview experts about issues raised by the farmers. Segments recorded on the farms and the ministry are combined with scripted materials and music which is relayed on "the thought/knowledge opinion of the farmer" programme (Hein, 1982).

Results of the Radio Bahai programme indicated that villagers were able to exchange information and share news about regional activities and events. This resulted in adequate spread of information and effective dissemination of development - oriented messages. Hein (1982) reported that the programme was very popular. It provided feedback to Radio Bahai team which enabled them to serve as intermediary between the Ministry of Agriculture and the farmers. It increased farmers level of awareness. For example, during an outbreak of hoof and mouth diseases, the Ministry of Agriculture and livestock requested Radio Bahai to produce spot announcement to farmers on the nature of the disease and the availability of vaccine. After two weeks, more than 250 herds of cattle were treated because of the information farmers obtained about the disease and availability of vaccine. This also resulted in an upsurge in the number of people who visited the clinic.

Honduras

Elagricultor

It has been reported by U.S.A.I.D. (1986) that the population of Honduras is 60% rural. However, they are marginally literate with 60% of the rural population having an average of two years primary school education. In an attempt to sustain their reading skills and improve upon their literacy levels a rural newspaper project was established in 1983.

A group of concerned Honduran businessmen organised a private institution called AVANCE to develop appropriate news information services for the rural population of Honduras. A newspaper called ELAGRICULTOR (The farmer) was established and published articles about rural development programmes and problems. In addition, it covered areas such as health, sanitation, child care, animal husbandry and gardening. It recorded a weekly circulation of over 20,000 copies. In addition, to being sold to the public, thousands of copies were provided free each week to various literacy centres operated by government literacy programme (plan National de Alfabetization). The project gained wide acceptance and was regarded as a trustworthy information source (USAID, 1986).

Mexico

Plan Puebla

The programme was initiated in 1968 with about 100 participants and it expanded in 1978 to over 8,000 participants. The objective of the

programme was to establish an eight component agricultural programme for stepping up corn production and to support that programme with agricultural information system. This was achieved through a comprehensive programme designed to help farmers with small land holdings to increase their productivity. The strategies adopted involved the spread of information about improved agricultural practices, chemicals, seeds and technologies. More specifically, some of the practical goals of the programme included:

- (i) to introduce higher - yielding varieties of corn
- (ii) to develop and disseminate information on improved agricultural practices.
- (iii) to open and maintain communication channels between farmers and change agents.
- (iv) to get adequate and timely supplies of agricultural inputs.
- (v) to stabilize the market price of corn,
- (vi) to supply agricultural researchers with psycho-social data (thus enabling them to tailor their recommendations to the prevailing cultural and climatic set up).

The implementation of Plan Puebla included the use of posters handbills, other audio-visual aids, recordings, broadcast in the villages from a social truck, drama and radio. Results of the programme, according to U.S.A.I.D. (1978), showed that the impact of the communication component of Plan Puebla could be measured in terms of farmers awareness of new agricultural techniques and technologies. Other indicators included

corn yields, income gains and improved living conditions. For example, corn yields per hectare increased by 3.3% during the first five years of the project. Similarly, gross family income increased significantly from US\$666 in 1967 to US\$825 in 1970. In addition, the number of families that ate fish once or twice a week tripled between 1967 and 1971. Also, non-economic indicators of the project's impact included changes in attitude among farmers who have been traditionally fatalistic and suspicious. Similarly, a steady increase in the rate of participation in project activities was achieved.

Peru

Video-based Training

In 1969, the government of Peru embarked on a nationwide programme of agrarian reform to help campesinos (rural farmers). In 1970, the government of Peru then set up the National Agrarian Reform Training and Research Centre (CENCIRA) within the Ministry of Agriculture. The main objective of the project was to develop and apply on a large scale, audio-visual methodology to train farmers in appropriate farming techniques.

To achieve project objectives, CENCIRA established a video production centre - CESPAC. The first step involved the development of a 90-day programme to train audio-visual teachers as video producers. Training covered all aspects of video-based training process including research, script writing, field recording, editing and testing of curriculum with the rural farmers. Each lesson tape was approximately 18 minutes and was accom-

panied by simple print materials. One lesson per day was presented either in the morning before the farmers go to work or in the afternoon when they returned. Presentations were followed by discussions and review of print materials. Based on such discussions which were taped in the field and brought back in form of feedback enhanced future planning and production (USAID, 1983).

Results of evaluation carried out in 1980 showed that 80 percent of the rural farmers liked the video-based training. USAID (1983) reported that the Peruvian video based training project by 1981 had made more than 600 of 18 minutes video lessons, trained over 1140 producers and reached some 102,000 rural farmers through video-based training programmes. The programme was executed at minimal cost, while video proved to be an invaluable tool for grassroots training. The audio-visual equipment helped to overcome the problem of high illiteracy in rural areas. The use of video was found to have maximised the effectiveness of extension agents' training activities with farmers, because they were able to present, in one audio-visual course a complete agricultural operation. However, some of the criticisms are that courses were selected without prior consultation with the "campesinos " and attendance was compulsory. Similarly, CESPAC excluded the campesinos in the planning and production of video courses.

Rural television project

The rural television project in Sudan started in 1974. Its main objective, according to Low (1978), was to use television as a medium of agricultural extension and adult education to inform, instruct and motivate the population. The project area was Gezira province which is the second most populated region (1.4 million) and the economic backbone of the country. Specifically the project was designed to improve the socio-economic development of Gezira tenant farmers through discussion on television programmes in village viewing clubs.

After a successful pilot study, TV viewing groups were set up in the village clubs (nadi), which generally served for social gatherings as well as for organising cultural, sport and political activities. One person was nominated in each of the selected villages and trained as a TV club monitor. The tasks of the monitor was to take care of the TV set and generator and lead discussions of rural TV programmes (Barrett, 1978).

Assessing the TV project in Sudan, Low (1978), argued that communication not only as a formalised method but also as a new way of thinking had not occurred. Because the project was still dominated by the old journalism pattern of giving news to the readers, Gezira farmers were not given a chance to present their views to producers. Ironically, many of the programmes misrepresented the farmers views by presenting their needs as seen by TV production staff. Furthermore, the results of project evaluation reported by U.S.A.I.D.(1983), showed that changes in economic structure

and agricultural production techniques were observed and served as a forum for villagers' felt needs. The survey also revealed that, on the whole, television can only be used successfully as a means of communication to rural areas only when complemented with extension services. Also, women who attended the viewing groups session had some problems even though they were few in number. Older men did not approve of their presence but women too felt uncomfortably exposed (U.S.A.I.D, 1983).

Lesotho

Maratholi Travelling Theatre (MTT)

The Maratholi Travelling Theatre used folk drama as a forum for village discussions about local attitudes towards health, nutrition, agriculture and social problems (U.S.A.I.D, 1991). The MTT used a five step format to execute the project. These included gathering background information about the villagers to whom the play will be presented; analysing this information and developing it into a story line; rehearsing the play; and performing it for the villagers. Afterwards, the actors met with the spectators to discuss and reinforce the points raised in the play. U.S.A.I.D. (1991) further reported that MTT performed several plays in conjunction with rural sanitation projects in order to reach a broader audience. All the performances covering these aspects were recorded by the Ministry of Health and was broadcast on Radio Lesotho.

In general, there are indications of positive attitude change towards the plays subject matter. For instance, after the re- afforestation play, 65% planted trees and 81% favoured joining cooperative societies.

Malawi

Extension Aids Branch (EAB)

In Malawi, Achikunbi (the progressive farmer) programme was established in 1958 under the auspices of the Extension Aids Branch (EAB). This programme was created to support extension services with a variety of media. Its main objective was to demonstrate better agricultural practices to groups of farmers using mass media programmes.

The government began two weekly radio programmes to encourage rural people to increase farm production with modern farming methods and thereby improve rural living standards. The programme was produced by EAB staff who have been trained in radio techniques. A woman producer concentrates on women's farming needs. The programme covered six areas, viz: farm forum, modern farming, cotton, farmers request programme, farmer notebook and farming family serial. EAB also published a monthly magazine (La Achikumbi) for farmers. In addition, EAB printed books and other informative materials and pamphlets that were distributed to farmers through the field extension staff.

An evaluation of the EAB programmes showed that they succeeded in reaching farmers at lower cost than the more traditional (interpersonal) methods. Though about 65% of the farmers surveyed identified their exten-

sion agent as their primary source of information, radio was the most economical medium to reach the largest number of farmers. U.S.A.I.D (1986) gave a breakdown of the relative cost per farmer contact per medium used as follows:

Residential training = US \$ 30
 Agricultural Extension Agent = US \$ 21
 Day Training = US \$ 4
 Film (mobile van) = US \$.17
 Puppets (mobile van) US \$.08
 Radio Broadcast = US \$.004

Evaluation report of EAB found that farmers do recall those radio and film messages that were their needs.

Senegal

Radio Education Rurale

The pilot centre for the production and testing of audio visual materials and equipment for adult education in Africa was established in Dakar by UNESCO in the early 60s. The project has two dimensions: Radio Education Rurale and a five year television component (which ended in 1969). Sock (1977) reported that the television component broadcast 121 programmes in all and were directed at 250 women in Dakar, while the radio broadcast was intended for a potential audience of 800,000 farm population

in the three Wolof speaking regions. The primary goals of the project included: to test the use of modern media in the context of adult education in Africa; to create a demonstration centre for possible use in other developing countries; to train local people to become technicians and producers, and to help restore to ordinary people the sense of personal power eroded during decades of colonial rule.

Under the project implementation, 57 radio listening groups were established in the pilot provinces. According to USAID (1978), programming focused on topics of local and pressing concern - namely: the production and marketing of groundnuts; the responsiveness of government agencies to the peasant farmers needs - social aid health problems. "Animation, and feedback took the forms of recordings made in the field and letters. In these letters, the peasants aired their complaints, exposed what they believed to be the causes of government ineptitude and accused the government of unfair or short-sighted policies.

Results of the programme showed that the most meaningful indicator of its impact is probably its effect on national policy. As a result of the several letters the government received from farmers, a standardized price was given to groundnut producers especially those in remote areas who were once discriminated against in markets. The boom in cheap transistor radio has resulted in a shift from group listening to individual listening. However, the disappearance of animation rurale activities has affected community participation.

Zimbabwe

Development Through Radio (DTR)

The Federation of Africa Media Women of Zimbabwe (FAWEZ) in 1985, embarked upon the Development Through Radio project. Goerge (1993) reported that the project was targeted at women in the rural areas of Zimbabwe. The DTR model evolved from the Radio Farm Forum Concept. The project was supported by funding from UNESCO and Friedrich Ebert foundation and the partnership of Zimbabwe Broadcasting Corporation (ZBC) Radio 4. The main object of the project was to use radio to facilitate women's participation in community development programmes.

A total of 45 radio listening clubs in four provinces of the country were established. The local branch comprised: Zimbabwean Association of Women's Club, membership ranging from 10 to 20 women. They came together once a week to use the radio cassette recorder provided by the project to listen to a DTR radio broadcast in their native language. The DTR members raise issues following their discussions after the programme to be addressed in future DTR programmes. Some of the issues discussed include their most pressing problems and their deliberations were recorded, packaged and aired weekly.

Results of the DTR project showed that the acceptance of mediated messages have been more or less passive. Though, no formal evaluation of the pilot project has been conducted, the preliminary results showed an an

enthusiastic affirmation of the concept of radio listening clubs as contributing to particular community development needs (George, 1993).

Benin Republic

Agricultural Radio Clubs

Agricultural radio programme was introduced in Benin Republic in 1967. The main objective of the programme was to improve the well-being of the rural peasants in Benin Republic through radio. The programmes were coordinated by the Audio-visual Centre, using local languages to educate peasants in agriculture. Each broadcast lasted 15 minutes between 7.10 and 7.25 pm. Agricultural extension officers and other cooperative society organised collective listening groups.

This led to the formation of Agricultural Radio Clubs in the villages. Anyanwu (1975) reported that each club consists of 31 members and every club has a transistor radio post where members assemble to listen to transmissions under the guide of an animator and his technical counsellor. The technical counsellor summarises the views, observations and suggestions of the peasants during meetings. Group situation reports strengthen and diversify the radio programmes as well as improve the education of the peasant farmers in agricultural development.

Investigations carried out to evaluate programme impact revealed that the peasants appreciated government concern for their welfare. Similarly, they confirmed the agreement between statements of the agents and broadcast information. However, farmers protested that the broadcast time con-

flicted with the Muslims praying time. In addition, they demanded for increase in the number of broadcasts touching on problems of commercialisation and price of farm produce.

Three years after the establishment of the programme, there were about 600 clubs each actively engaged in farming, fishing or keeping livestock. By 1975, each vilage had an agricultural radio club with a transistor radio post. Generally, it was observed that through collective listening, discussion and the use of audio-visual aids, radio can contribute substantially to the process of transformation of agricultural practices as well as some social and economic circumstances of the farmers in general.

Ivory Coast (Cote d'Voire)

Institute African Pour le Development Economique et Sociale (INADES)

The programme was founded in 1962 by Catholic Bishops. It aimed at providing practical basic education to rural Africans especially subsistence farmers, village women, and development workers. In 1965, INADES started offering correspondence courses to farmers in agricultural practices in addition to the administrative courses offered to middle level workers with post primary education. By 1967, according to USAID (1977), it was converted to a comprehensive training centre, where a department of women's training (service Feminin) was created in response to demands of farmers. The women's department produced teaching materials and guidance for village women and female development workers.

The programme produced serialised booklets for local study groups organised by extension agents. Because a high percentage of INADES subscribers were not literate, the booklets were written in the simplest language and incorporated drawings and other visual aids. Thus readers can help those who cannot read to translate the material. The programme also organised seminars and outreach activities to provide publicity, motivation and follow up to programme courses.

Results of INADES programmes based on mail-in feedback questionnaires, discussion or observation provided information for continuous adjustment and response to such evaluation. However, the detailed evaluation of the programme carried out in 1971 showed that about 3000 people had benefitted from the programme. Also, 1,079 women social workers had taken "feminine training" while an estimated 6,000 additional students followed the courses without registering for them. The programme also spread to neighbouring countries within the sub-region (U.S.A.I.D, 1971).

2.6.3 Media Use Pattern among Nigerian Farmers

The roles of mass mediated channels of communication have been acknowledged in a variety of literature. In Nigeria, various forms of communication media that cater for a mass audience include: radio, television, and the print media (newspapers, magazines, extension publications and input manuals).

Trends in Nigerian agricultural development scenario show that the mass media have tremendous potentials for agricultural information dissemination. It is in recognition of these potentials that Aina (1990) extolled newspaper as a unique medium for its permanency in content, and the radio and television for their immediacy effect and ability to "invade" people's homes. This assertion is further supported by Hornick (1988) who recognised the status conferral role of the mass media. One of the several policy interventions to step up agricultural production by successive governments in Nigeria is the establishment of various agricultural research institutes. These institutes have been involved in concrete research efforts that have resulted in accumulation of agricultural information. Consequently, the mass media, particularly the radio, have been used in the popularisation of various technologies. For instance, Moemeka (1981) investigated how information on national issues spread among farmers in Obankpa village in the former Bendel State (now Edo and Delta States). The survey covered some of the national programmes which included Operation Feed the Nation (OFN), Universal Primary Education (UPE) and Local Government Reforms. The results of the study showed that 33.7% of the respondents learnt about OFN at school while only 7.7% and 1.9% learned from radio and newspapers respectively. A majority of the respondents (32.6%) learned about local government reforms from school compared to only 3.8% of who learned from the radio. Similarly, 40.4% learned about U.P.E. at school while 2.9% and 6.7% learned about the same programme in newspaper and on radio respectively. On the whole, school, market and social forum are the

major sources of development information to the respondents (34%, 21.8% and 21.2% respectively).

The channels of communication in Nigeria are not quite different from what obtains in many developing countries. Though the media use pattern of farmers in Nigeria varies from community to community, several studies in Nigeria show that radio has been identified by farmers as the most important source of agricultural information on improved technologies (Yazidu, 1973; Patel and Ekpere, 1978; Voh, 1979; Zaria, 1984; Anigwe, 1990 and Olowu, 1993).

Agricultural Development Projects (ADPs) in Nigeria have realised this potential and consequently used the mass media for communication support services in their outreach programmes. Patel and Ekpere (1978) reported that 83% of farmers in south-western Nigeria listen to farmers programmes on radio. This finding is further corroborated by Oyo North Agricultural Development Project (ONADEP) (1986) where 95% of farmers sampled in a farmers media use survey listen to ONADEP sponsored radio programmes. But farmers would prefer to listen to the programme in Yoruba language. Konkwo (1991) reported similar findings in a study of male and female farmers use of the mass media in Imo State. Accordingly, 50% of the sample indicated that they do listen to radio agricultural programmes in Igbo. In another study, Olowu and Igodan (1989) also found that farmers generally obtain information from the radio and about 34% of the farmers who sought information from radio, 31% actually found information from it.

They also found that education was significantly related to the media from which farmers sought marketing, pesticides and herbicides information ($X^2 = 53.3$; $X^2 = 17.5$ and $X^2 = 22.1$ respectively). Similarly, age of respondents was significantly related to the media farmers sought and found information on improved technologies ($X^2 = 18.18$; $p = .001$).

In Nigeria, television viewership variables are significantly and positively related to knowledge of improved farm practices. This is in view of the findings of Olowu (1991) which show that farmers who watch general television programmes had more knowledge than those who do not watch ($X^2 = 5.36$; $P = .05$). Also farmers who watched Ere Agbe television farm programme as their source of information had more knowledge of improved farm practices than those who do not ($X^2 = 61.11$; $P = .05$). In view of these findings, television farm programmes, according to Olowu (1991) have the potential for increasing the knowledge repertoire of Nigerian farmers.

The use of mass media attract different listening time for radio while television telecast hours are always in the evenings till late night hours. Studies carried out at different locations in Nigeria confirm this assertion. For example, ONADEP (1986) reported that 40% of the farmers sampled listen to radio in the morning while 23% and 76% listen in the afternoon and evenings respectively. Olowu (1993) also reported that the most favoured time for farmers in Osun State is 7 - 8 p.m. (56%). Similarly, Anigwe (1990) reported that evening and night hours were the most preferred among 79.3% of his sample. Similarly, Adewumi (1990) reported that 83% of

farmers sampled in his study also preferred 6 - 9 p.m. The same period was preferred by Okunola's (1989) sample (65%). These findings show that most farmers preferred evening hours for listening to agricultural radio programmes in south-western Nigeria. However, this is at complete variance with time preference of farmers from Benin Republic who protested against 6.30 to 7.00 p.m. for farm broadcast because it coincides with Muslims evening praying hours.

Investigations into whether farmers listen to farm broadcast alone or with others have been reported severally in various studies. Adewumi (1990) reported that about 95% and 96% listen to farm broadcasts at home, and in company of others respectively. This finding is similar to that of Olowu (1993) who reported that 85% of farmers sampled in his study listen to farm broadcast at home with family members (75%).

Statistical summary of relationships between farmers characteristics or audience characteristics and mass media variables indicate that media use pattern largely depend on certain independent variables. Nwuneli (1980) established that certain socio-economic variables are significantly and positively related to media variables. For example, income and newspaper reading ($r = .463$) and education and newspaper reading ($r = .454$) were all positively related. This situation was attributed to high literacy level. Similarly, income was positively correlated to television viewing ($r = .390$; $p = .001$). The study also revealed that income was highly correlated to education ($r = .628$; $p = .001$). These findings suggest that exposure to mass

media were associated with income and education. Thus, people with higher education and income will most often use mass media and information disseminated through them. Contrary to these findings, Adewumi (1990) reported that there is no significant relationship between farmers characteristics (age, education and dependence on radio farm programme) and their knowledge of agricultural innovations from radio. Similarly, the result of t-test analysis carried out indicated that there is no difference in the knowledge of those who listen to agricultural programmes and those who do not. The implication of these findings is that radio listenership pattern and listening behaviour has no significant influence on knowledge of improved farm practices. This conclusion largely depends on the programme content in relation to knowledge test. Therefore, these findings actually contradict several other studies that investigated the impact of mass media agricultural programmes on farmers knowledge. Patel and Ekpere (1978) found that farmers' characteristics (radio listening, age and education) were significantly related to farmers knowledge of improved agricultural practices. This was further corroborated in different studies (Hornick, 1988; Olowu and Igodan, 1989 and Olowu, 1991).

2.7 THEORIES OF MASS MEDIA EFFECTS

The concept of theory was defined by McQuail (1987) as sets of ideas of varying status and origin which may explain or interpret some phenomenon. Theories of mass communication try to explain how individuals respond to media messages. They provide insight into how the mass media affect

individuals, agricultural publics, and the larger society. For instance, they predict how rapidly farmers will adopt recommended innovations in the agricultural development process. This is why Loevinger (1979) viewed mass media as "mirrors of the society". This implies that, the mass media reflect the social images of the masses, nations or communities formed by common images and visions along with common interests, ideas and cultural orientation.

Mass communication researchers have identified the following theories of media effect among others:

- (i) The "Magic Bullet" Theory
- (ii) The Two-step Flow Theory
- (iii) Uses and Gratification Theory
- (iv) Knowledge-gap Hypothesis
- (v) Agenda setting.

2.7.1 The "Magic Bullet" Theory

The "Magic Bullet" theory, also referred to as the "Hypodermic Needle" theory or the "Mechanistic Stimulus - Response" theory of communication, was one of the first theories developed to explain the effect of mass media on audiences (Infante, et al, 1990). The bullet theory was derived from the stimulus-response view of early mass communication theorists and researchers. This view asserts that any powerful stimulus such as mass medium

message can provoke a uniform reaction or response from a given audience. This implies that the mass media could influence a very large group of people directly and uniformly by "shooting" or "injecting" them with appropriate messages designed to trigger a desired response.

In agricultural extension, mass mediated channels of communication have been utilized in information dissemination. For example, announcement on the radio about the availability of fertilizers in a given location may witness unprecedented turn out of potential buyers within a short period.

In our society, communication is said to be one of the elements that make social life possible that the mass media are an important part of the total range of communication. Research efforts aimed at establishing the effect of mass media on societies have generated controversial questions. Such questions bother on government control of the mass media and lopsided ownership of the media. Therefore, the concept of development communication requires the support of mass media to bring about desirable social change. However, from the transactional perspective, the media, perhaps reflect more on the changes taking place rather than causing changes.

In democratic process, mass media play a significant role on voters decision to choose their representatives. Government also relies heavily on the media to communicate instructions and explanations to the public to rally support for its policies and programmes. Similarly, it provides an

insight on how people learn about these specific policies and programmes and how they affect people from all parts of the country (Davidson *et al*, 1982). This is why governments in many countries have been able to use the mass communication to strengthen executive authority and tie each individual attention to the central government. On the other hand, the media are able to link those with common interests, focus attention on certain issues, and enable minority groups to state their case to the public at large. The most recent case that substantiates this claim is the Ogoni people of Rivers State, Nigeria. The people vehemently protested to the entire citizenry about the plight of oil producing communities. This received tremendous media coverage. Several other minority and special interest groups have gained wider public attention and support due to media coverage. Advocates of human rights, women activists, political groupings, student unionists, labour organisations, manufacturers and many others have found it possible to reach larger audiences through the mass media. Also, they have been able to influence policies and legislation in Nigeria.

The negative dimension of the mass media have received tremendous attention in American Society. However, reports from various studies have generated controversial findings that have kept social scientists guessing (Payne, 1974; Comstock, 1978 and Jaechning *et al*, 1981). Evidence from some of these studies indicates that viewing of violent content on television increased aggressive tendencies among children, but it can not be ascertained whether this affects crime rate. Davison *et al* (1982) posit that "it may

be that heightened aggressiveness is expressed in other ways than through engaging in crime".

From the foregoing analogy, the "Magic Bullet" theory has great implications for agricultural extension, since extension services are designed to bring about positive changes in the attitude, knowledge and skill (AKS) of beneficiaries. However, contrary views have been expressed by social scientists about the power of mass media to affect attitude. First, Davidson *et al*, (1982) pointed out that "effects on attitude could be marked by changes or by the passage of time". The second point is the question of the conditions under which mass communication would affect attitudes and conditions under there would be no effect or very little effect. These questions led Davison *et al* (1982) to classify some of the intervening factors: characteristics of the message content (clarity, appeal to emotions or reason); characteristics of the channel, i.e. persuasive power of the mass media - television, radio and newspaper. Finally, they classified the characteristics of the audience (demographic, media habit and behavior). This classification is based on Lasswell's (1948) description of communication:

"Who says what, through what channel, to whom, with what effect?"

The question that bothers mass communication researchers has to do with audience related variables. For instance, why do extension messages broadcast on radio succeed in affecting the attitudes of one farmer and not of another? Davison *et al* (1982) identified four audience characteristics which are responsible for different attitudinal effects:

1. Personality and educational differences, characterised by individual persuasiveness and ability to understand complicated arguments. This of course has significant implication for extension. Community leaders and opinion leaders constitute the bulk of early adopters of innovations. Similarly, farmers with higher education generally adopt innovations more than those with low education, while higher income is also positively correlated to adoption.
2. **Social settings.** The concept of group dynamics constitutes a major cause of adoption decision among members of organised groups or associations. For instance, the more a farmer participate in group activities the higher the chances in his adoption of innovations introduced to the group.
3. Variation in attitudinal strength and commitment to certain constraints such as innovations, political systems and advertisement of goods and services on the media. This implies that the degree of media broadcast of certain information could affect the degree of changes in farmers' attitude, knowledge and skill about the innovation. For example, if a radio jingle about a new cassava variety is intensified, there is the likelihood that a farmer exposed to such a jingle will have more positive attitude than a farmer who is not exposed to the same innovation.
4. The influence of external events. For example, farmers may not adopt an innovation such as the use of herbicides if there is no pest outbreak or use of pest/disease resistant variety but will adopt the same when there is an outbreak of pests and diseases.

The implication of these characteristics to communication research is the association with persuability of the media. For instance, McGuire (1973) identified anxiety, self-confidence, intelligence and education level to be related to persuability. However, religion, race and social class had no impressive correlations with persuability. Other studies have found children to be more persuable than adults and women slightly more persuasible than men. In general, extension delivery through the mass media require sound understanding of variations in audience characteristics in order to maximise the persuasive potential of the mass media.

2.7.2 The two-step flow theory of mass communication

The two-step flow theory of mass communication postulated by Lazarsfeld and Merton (1948) posited that ideas often flow from the mass media (radio, television or newspaper) to the opinion leaders in society who then pass this information via interpersonal channels to their followers - or the less active sections of the population.

Katz (1960) maintained that individuals are not social isolates but they belong to groups that interact with other people. The implication of this in agricultural extension delivery is that the potentials of group dynamics among farmers' organisations remain a viable option for effective information dissemination in agricultural development process.

The theory states that the first step in information flow consists of active information seekers who are generally well educated, have access to media resources, are influential on others and act as sources of guide to others.

Therefore, the paradigm of innovation - diffusion in agricultural technology transfer requires the services of opinion leaders. Since they play an active role in adoption process, they need full integration into the information exchange network of agricultural extension organisations. Current extension delivery strategy involves the use of Training and Visit (T and V) system. It has been reported that T and V had its origin in Israel in the 1950s. However, it was modified to meet the agricultural development needs of many developing countries (Benor and Harrison, 1977).

The implication of the two-step flow theory to T and V system is the utilization of opinion leaders known as contact farmers. The contact farmers constitute an important link between agricultural extension organisations under the T and V system and the farmers. They facilitate extension delivery in agriculture and rural development. Contact farmers help to spread agricultural extension recommendations and benefits of new technologies to the economically and socially disadvantaged segments of the rural population. Their selection is based on their willingness to adopt recommendations and to spread such information to other farmers within their community. They are innovators and serve as models to other farmers.

In mass communication, the mass media are the first step, and others the second step. The theory states that information from the media moves through distinct stages. First are individuals who pay close attention to mass media messages. For example, there are those who listen to farmers programmes on radio, or viewers of certain television programmes like soap

opera or specific comedies. This set of people is referred to as frequent attenders to mass media. Infante *et al* (1990) referred to the same individuals as "opinion leaders". They are generally well informed people. They pass their information to others in the second stage through informal or interpersonal means. Therefore, personal influence becomes an in-built process intervening between the media's direct message and the audience's ultimate reaction to media messages.

In agricultural extension communication process, those who are more in contact with the media could be regarded as "opinion leaders". For instance, De Fleur and Ball-Rokeach (1982) discovered that opinion leaders play an important role in helping to shape the voting intentions of those to whom they were passing information. They were not only passing on information, of course, but they were also passing on their interpretations. This "personal influence" became immediately recognised as an important intervening process that operated between the mass communication message and the responses made to that message.

In agricultural technology transfer, the two-step flow theory has significant implication on diffusion of innovations. Williams *et al* (1984) viewed diffusion as a process where new ideas are spread from source of invention or creation to the point of ultimate utilization or adoption. It has long been recognised that informal social relationships among farmers play an important part in determining their propensity to adopt a given agricultural innovation.

The rural society is characterised by strong neighbourhood ties. Therefore, when new ideas come from the outside, the interpretations made by neighbours in such a setting can be of critical importance in determining the likelihood of adoption (De Fleur and Ball-Rokeach, 1982). The adoption of new farm technology is a process closely related to mass communication. New ideas are first presented to farmers via communication media. These may be mass media or other channels of communication such as Village Extension Worker (VEW) or extension bulletins. It is then left for the individual farmer to respond positively or negatively to these communication messages in ways advocated by the source of such agricultural information.

2.7.3 Uses and gratification theory

Uses and gratification theory attempts to explain why people use the mass media and what functions mass communication serves for audience members. Roberts and Bachen (1981) report that uses and gratification theory is audience centred. It explains what people do with the media rather than what the media do to people. "It is concerned with the social and psychological origin of needs, which generate expectations of the mass media or other sources". This leads to differential patterns of media exposure (or engagement in other activities), resulting in need gratifications

and other consequences. Therefore, the theory explains the functions of the content of mass media and how an audience member best uses the media. For example, Infante *et al* (1990) identified six reasons why children and adolescents use television. Television is generally used for learning, passing time, companionship, to forget or escape unpleasant circumstance, for excitement or arousal and for relaxation. Similarly, Rubin (1984) identified two types of television viewers. The first type consists of time-consuming (habitual) information seekers who watch television and use it primarily as a diversion. The second type of viewers is a non-time-consuming (non-habitual) entertainment-information seeker who attend to television for instrumental use. The individuals exhibit natural liking for a television programme and is goal oriented in selection and use of media content.

In agricultural extension delivery, several approaches have been used in information dissemination. These include: face-to-face or dyadic communication, radio, television, newspapers and agricultural extension bulletins. Several studies have established the potency of these media at reaching the farmers of various characteristics. It has long been realised that the face-to-face extension strategy is grossly inadequate, given the limited number of extension agents compared to the number of farmers to be reached by one extension agent. It could be speculated that farmers use of these media can also follow the pattern observed by Rubin (1984). That is, habitual and non-habitual users. Farmers who are habitual users of television, for example, may not be active seekers of agricultural information from that medium

whereas farmers who are non-habitual users could be active seekers of such information.

Evidence from audience surveys based on media campaigns of political activities reported by Severin and Tankard (1992) suggest that uses and gratification approach can actually increase our knowledge about effects of mass communication. Therefore, effects may be dependent upon or related to audience members' needs and motives. They cited the work of two Swedish researchers who proposed a "uses gratification model" that included the following elements:

- (a) The audience is conceived as active, that is, an important part of mass media use is assumed to be goal directed.
- (b) In the mass communication process, much initiative in linking need gratification and media choice lies with the audience member.
- (c) The media compete with other sources of need satisfaction.

The uses and gratifications theory has received tremendous attention by communication analysts. Some of them provided several ways of classifying audience needs and gratifications. For instance, reference can be made to the "immediate" and deferred gratifications, "informational - educational" and "fantasist" (entertainment) functions of the mass media (Severin and Tankard, 1992). McQuail and Windahl (1981) suggested the following categories of functions:

1. Diversion (escape from routine problems; emotional release).
2. Personal relationships (social utility of information in conversations, substitute of the media for companionship).
3. Personal identity or individual psychology (value reinforcement or reassurance, self-understanding; reality exploration, etc.).
4. Surveillance (information about things which might affect one or will help one do or accomplish something).

The uses and gratification theory has significant implication for agricultural extension delivery. The use of mass media motivated Katz et al (1973) to arrive at categories that have relationships to agricultural extension delivery in Nigeria.

1. **Cognitive needs**: Cognitive needs explain that the needs of individuals are related to acquiring information, knowledge and understanding of introduced innovations. Farmers seek clarifications by asking questions about the best ways to utilize such innovations and attain higher yields.
2. **Affective needs**: Affective needs of individuals are precisely concerned with the emotional, pleasurable, or aesthetic experience of the audience. For instance, a farmer that applied a pest control chemical and experienced defoliation resulting from over-dose during application may be scared of further use of agro-chemicals.

3. **Personal integrative needs:** Personal integrative needs help in strengthening credibility, confidence, stability and status of individual farmer.
4. **Social integrative needs:** Social integrative needs emphasis strengthening contacts with family, friends, etc. This category has significant implication for the T and V system of extension as it explains the relevance of group activities both on gender basis, as well as commodity or cooperative basis. This is a common catalyst for exchange of ideas in technology transfer, particularly among the end users.
5. **Tension release needs:** Tension release needs explain that individuals use the media to escape certain feelings, experiences and disappointments. In the end, they divert attention to the media.

In conclusion, the uses and gratification theory reveals that the audience rather than being passive is actually very active. Dervin (1980) recommended that development of information campaigns should begin with the study of the potential information user and the questions such persons are attempting to answer in order to make sense out of the world. This is with particular reference to agricultural development process in Nigeria. This conclusion probably applies to the producers of the content of the mass media (media practitioners). In essence, media practitioners, working for various media organisations and agricultural development projects as well as development oriented agencies should conduct more research on their

potential audiences, and the gratifications these audiences are trying to obtain from the mass media.

2.7.4 The knowledge-gap hypothesis

The knowledge-gap hypothesis indicates that inequality exists among a given population with regard to information accessibility. It further explains how social structure affects communication process. The problem of inequality is explained by the differences in the socio-economic status and other demographic characteristics of various segments of a population. Several variables associated with these differences include: literacy level, income, racial, ethnic, religion, rural-urban residence status, subsistence or small-scale farmers - large scale farmers (although there is probably for an overlap of each of these variables with socio-economic status). According to Davison *et al* (1982) researches have shown that those who are better educated take more advantage of new sources of information than those who are less educated. For example, if newspapers should emphasis and carry more articles on the control of black pod disease in south-western Nigeria, the better educated will learn more even though it is the less-educated who are in greater need of the information. This assertion is corroborated by Rogers (1974: 55) who posits that:

...information into a social system increases, segments of the population with higher socio-economic status tend to acquire this information at a faster rate than the lower status segments, so that the gap in knowledge between the segments tends to increase rather than decrease.

This phenomenon has continued to result in "knowledge-gap" among the audiences of mass media. The situation is quite unpleasant in agricultural development circles. In most developing countries, Nigeria inclusive, the mass media tend to preserve the status quo by reinforcing existing values, increasing the power of the already powerful, and focusing attention on subjects of interest to the elite.

In communication, information is regarded as a resource. Severin and Tankard (1992) contend that information has value and enable people do things they couldn't otherwise do. This confirms the assertion that it is knowledge that gives people the capability to do things and take advantage of opportunities. However, it is apparent that knowledge, like socio-economic variables are not evenly distributed throughout the society. Severin and Tankard (1992) concluded that "people who are struggling with financial poverty are also often information poor". This implies that in the world of information, there are haves and have-nots just as there are haves and have-nots with regards to material wealth. The situation of the information status of members of a given social system pose a great challenge to agricultural extension professionals who are expected to narrow existing knowledge-gap in technology transfer.

The mass media have received tremendous attention in mass communication research. This trend resulted in several suggestions and postulations as regards media effects. Some of these include, the advantages of getting information to people not usually reached through the mass media.

This justifies the significant contributions of agricultural farm broadcasts in many countries under the "narrow-cast" media called "Radio Farm Forum". Therefore, the concept of infusion (Severin and Tankard, 1992) indicated that acquisition of information is at a faster rate among segments of the population with higher socio-economic status than the lower status segments. This calls for specialised programmes for specific agricultural publics who are predominantly small-scale farmers.

Several explanations have been advanced for the existence of a knowledge gap. Some researchers have attributed the knowledge gap to basic communication skills and other factors associated with socio-economic status. This line of thinking explains the knowledge gap in terms of "transituational" factors. Another group of researchers has suggested that the gap is due to differences in motivation and that individuals of low socio-economic status might acquire information just as rapidly as those of higher socio-economic status when they are motivated to do so. This line of thinking explains the knowledge gap in terms of "situation specific" factors (Severin and Tankard, 1992).

Transituational variables include, among others, education, income and occupation. These variables are assumed independent, while the situation-specific variables might be the dependent variable. The situation-specific (dependent) variable have to do with the knowledge status, that is, an individual is either of high- knowledge gap or low knowledge gap status. This is based on the subject matter under media focus. Though researchers have

found these variables to be effective in predicting knowledge levels, the situation specific variables were not the most important ones. Therefore, the widening of knowledge gap might not occur if media users of lower socio-economic status have a particular need or desire to acquire the information (active seeking principle). The bottomline of this observation is that motivation is a major factor in knowledge-gap hypothesis.

In developed economies and economies in transition, several communication technologies are being introduced with the aim of achieving faster rate of information dissemination. This tendency brought about the use of technologies such as video tape recorders, television monitoring sets, cable television, computer networking, fax machines, telephones (including mobile cellular phones) etc. These new technologies have the potentials to benefit the people throughout the society. This assertion had earlier on been reported by Parker and Dunn (1972) as cited in Severin and Tankard (1992: 42). They noted that:

The greatest single potential of an information utility might be the opportunity to reduce the unit cost of education to the point where our society could afford to provide open and equal access to learning opportunities for all members throughout their lives.

In Nigeria, the current economic situation is not favourable for the procurement of these new technologies that are quite expensive. Because of the cost, these technologies may be more available to the well-to-do than the less well-off. For this reason, the desire to effectively utilize these technologies for enhanced communication in agricultural development process

could lead to a further widening of the knowledge-gap. The implication of this in agricultural extension delivery is that inequality in access to information services between the already "information- buoyant" and "information marginalised" members of the society may result in the former reaping the benefits while the latter gets relatively poorer. Particular reference can be made to women farmers in seclusion (pudah) who are often difficult to reach by agricultural extension agents. If this undesirable situation remains unchecked, agricultural production potentials of women farmers will continue to remain untapped.

2.7.5 Agenda setting

Agenda setting has been described by a number of scholars as a function of mass communication (McCombs and Shaw, 1972; Severin and Tankard, 1992). Roberts and Bachen (1981) defined it as the "ability of the mass media to influence the level of public awareness of issues as opposed to their specific knowledge about those issues. Similarly, Infante *et al* (1990) viewed agenda setting from the position of mass media itself. That is, mass media tell us what issues and individuals are important by the way media is publicising them, and they becoming important because of such attention. For example, if the media chose to highlight a particular technology or crop such as soyabean as the 'miracle crop' that will eliminate the problem of protein deficiency in Nigeria, then, soyabean becomes an important issue regardless of the level of importance the audience places on it before the

media attention. Therefore, the mass media do indeed have a strong influence on what people think is important.

The underlying assumption of agenda-setting is the convergence between the importance ascribed to issues publicised in the media by the attenders to those media and the emphasis given them by the media.

To an agricultural communicator or field agricultural extension worker, agenda setting suggests the importance of framing an activity or event in the right way in order to attract the attention of agricultural publics. Indeed, studies have shown that agricultural activities have not featured prominently on media agenda. Only about 5% of all newspapers content of Nigerian dailies are agricultural (Olowu, 1990, and Agumagu, 1988). This implies that, news editors may not have much regard for agriculture. Hence, agricultural extension efforts should also be directed at making editors have favourable attitude to agricultural reportage.

Agenda setting is one possible ways through which mass media can have an effect on the public. It is the idea that the news media, by their display of news, come to determine the issues the public thinks about and talks about. Therefore, mass media attention to an issue elevates the issue to be of importance to the public. In a sense, Long (1988) posited that "the newspaper is the prime mover in setting the territorial agenda". To analysts, it helps in determining what most people will be talking about, what people will think the facts are and ways problems are to be dealt with.

The concept of agenda setting involves the interaction of three agendas - the media agenda, the public agenda; and the policy agenda. Each of these is said to involve three important dimensions as follows:

1. **Media agenda:** The three dimensions to media agenda are visibility (the amount of prominence or coverage given to an issue); audience salience (the relevance of news content to audience needs) and valence (the favourable or unfavourable coverage given to an issue). The implication of this postulation to agricultural extension is explained in how the media agenda is able to address the following related issues.
 - How frequent issues affecting women farmers are been given attention in Nigeria? or
 - What is the volume of coverage given to women farmers in both print and electronic media?
 - How relevant is the content of information of mass media to women farmers in Nigeria?
 - Are the contents of the Nigerian media compatible with the characteristics of women farmers?
 - What is the nature of media practitioners predisposition to the coverage of women farmers' activities?

2. **Public agenda:** The three dimensions to public agenda include: Familiarity (the degree of public awareness of a given topic), personal salience (interest or perceived relevance to one's self), and favourability (the favourable or unfavourable judgment on the topic). The implication of these dimensions to agricultural extension is based on the following assumptions:

The level of awareness of agricultural publics on agricultural issues that are receiving media attention. For instance, if the outbreak of rinderpest disease in a given locality receives prominence in the media, the issue of familiarity becomes imperative, that is, have the farmers ever heard about rinderpest disease? or the type of animal it could affect.

The issue of personal salience in this case is related to audience perception of the issue under media focus. This implies that if the issue (rinderpest disease) does not affect the farmer directly, the chances are that he/she may not be keen about it. Consequently, this will lead to a kind of negative predisposition. On the other hand, the farmer may be keen if the issue under focus (rinderpest disease) could affect his/her livestock. The bottom line of this assumption is that an audience of mass media message will pass a judgement either favourably or unfavourably, depending on the perceived relevance of the topic.

3. **Policy agenda**: The three dimensions to policy agenda, include: support (action more or less favourable to a given issue), likelihood of action (probability that a governmental body will act on the issue) and freedom of action (range of possible governmental actions).

Development programmes and issues related to the generality of the population require not only media attention but government attention as well. The role of the mass media in this situation is purely the mobilization of both human and material resources to achieve the goals of government. This presupposes that issues that are of paramount importance to govern-

ment are likely to receive more media attention because government will provide all the necessary support to publicise such a development. For instance, before January 1994, the Better Life Programme (BLP) was in media focus in Nigeria. The introduction of Family Support Programme (FSP) which replaced the Better Life Programme has resulted in a shift of media focus on it. Government support in this direction cannot be over-emphasised.

The idea of likelihood of action is based on the premise that if the government is convinced that the programme is important and policy makers are favourably predisposed to it, one or more governmental agencies will take action. This will provide media organisations with the opportunity to cover its activities. Finally, the freedom of action implies a wide range of governmental actions. This is either in response to media call or media empathy about government policies.

CHAPTER THREE

3.0 THEORETICAL AND CONCEPTUAL FRAMEWORK

In this study, the conceptual framework is based on the schematic Women Farmers Agricultural Information Seeking Model presented in Figure 3.3. The model attempts to define the orientation underlying information dissemination and utilization in agricultural development process. It is derived from the concept of development communication and from the review of literature that specifically deals with the patterns of media utilization in several developing countries. This is in recognition of the potentials of mass media in complementing current agricultural extension delivery strategies in Nigeria. In addition, it is designed to provide a guide to extension organisations, media organisations and practitioners on how best to meet the agricultural information needs of women farmers from diverse socio-cultural background.

The theoretical orientation of this model is limited to the independent, intervening and dependent variables.

3.1 MEDIA USE AND MESSAGE RELEVANCE

The bottomline of this model is the conviction that the mass media are "message carriers" and the target audiences of such messages are in continuous search for relevant information to improve their existing circumstances. This is achievable through the continuous interaction between key

players in the information exchange network in a social system. Oskamp (1977) extolled the mass media for their ability to create 'second hand reality'. He attributed our knowledge, beliefs and attitudes to others with the great majority probably coming from some mass communication medium ranging from books, bulletins to bill-boards, radio and television. Hence, the message content influences use of the mass media. That is, it affects individual's information seeking behaviour.

Within the context of development communication, it could be postulated that the interaction between audiences of mass media and processing of relevant messages could have potent effect on such audiences. In a tripartite relationship between society, media and audience (Fig. 3.1) (DeFleur and Ball-Rokeach, 1982), the users of mass media are tempted to continue its use because of mass media impact on their cognitive, affective and behaviour conditions. This tripartite relationship has great implication for women farmers information seeking behaviour. For example a woman farmer might be affected by the message received on a radio programme if its broadcast coincide with particular information needed to solve a technical problem. Similarly, the programmes of media organisations (radio, television, newspapers, extension publications) and their sponsors (Agricultural Development Programmes, Research Institutes and Extension Liaison Agencies) could be altered if findings from audience analysis indicate that the problems and needs of women farmers are at variance with on-going media programmes (agenda). This is why audience analysis plays an important role in media programme production in communication for development.

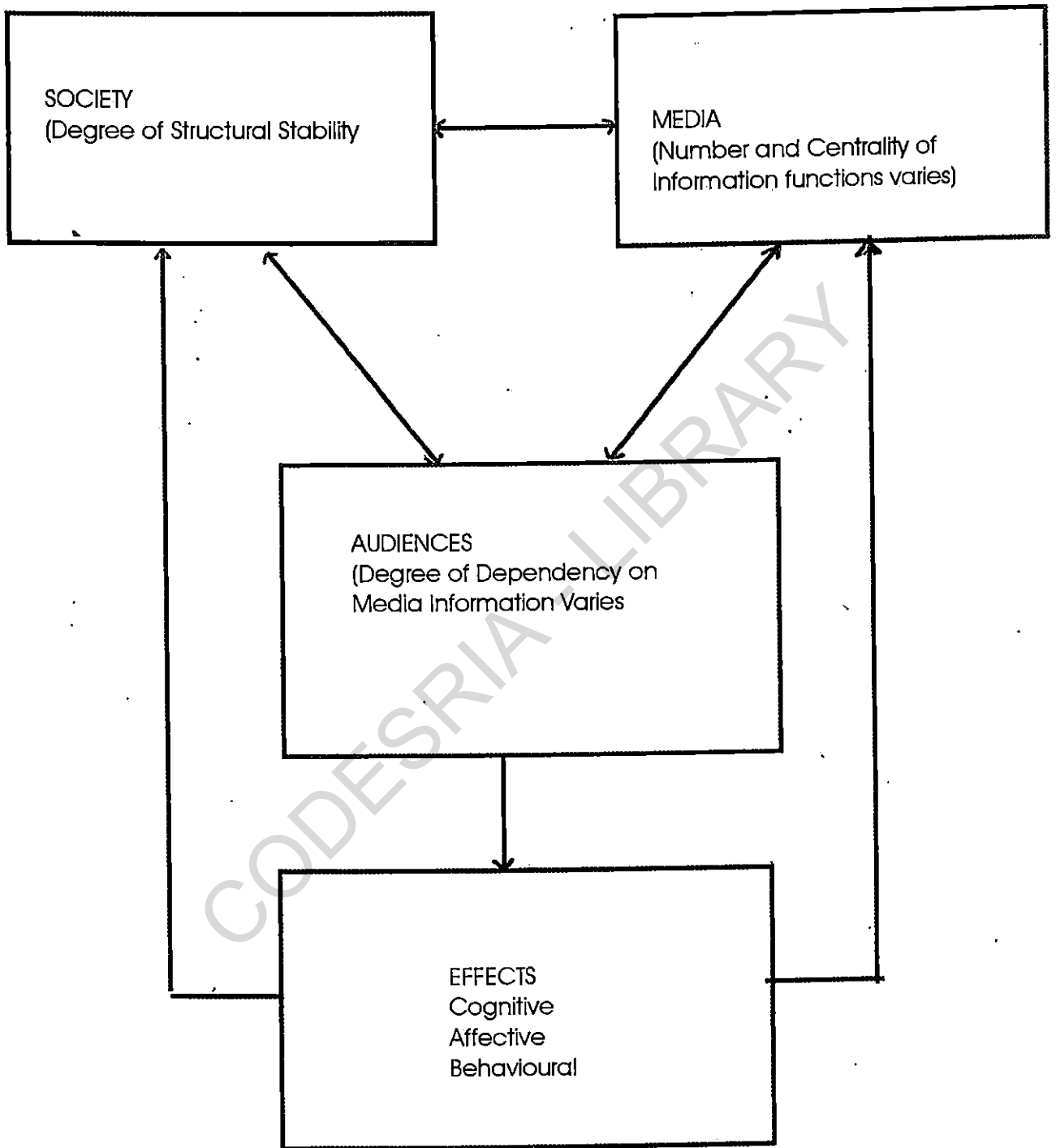


Fig. 3.1: Society Media and Audience Reciprocal Relationships

Source: De Fleur, M.L. and S.J. Ball-Rokeach (1982). Theories of Mass Communication. New York, Longman, p.234.

The overall implication of this tripartite relationship is explained in the interdependencies that exist in the ways each functions. For instance, the mass media have significant effect on the overt behaviour concerning people's feelings, attitudes, beliefs and value orientation. Furthermore, DeFleur and Ball-Rokeach (1982) assessed other complex sets of factors and the variables associated with media use and relevance to target audiences. Figure 3.2 shows the integrative oriented role of the mass media in a complex social system. This could be explained by forces that motivate people to interact on a continuous basis in the society. In the process a common area of interest are identified through what could be regarded as consensus, control and adaptation. This is why in societies undergoing transformation, audiences of various characteristics with different degree of information needs, enjoy the benefit of interaction among the key players in the information network.

Both the target audience of media messages and producers of such messages must therefore work side by side in order to ensure that the message content of media organisations are not at variance with specific information needs of diverse audiences of the mass media. Hence, women farmers agricultural information seeking model (Fig. 3.3) is predicated on this assertion. Because it shows that there exist interdependencies between the mass media and other actors in information exchange network within the social system.

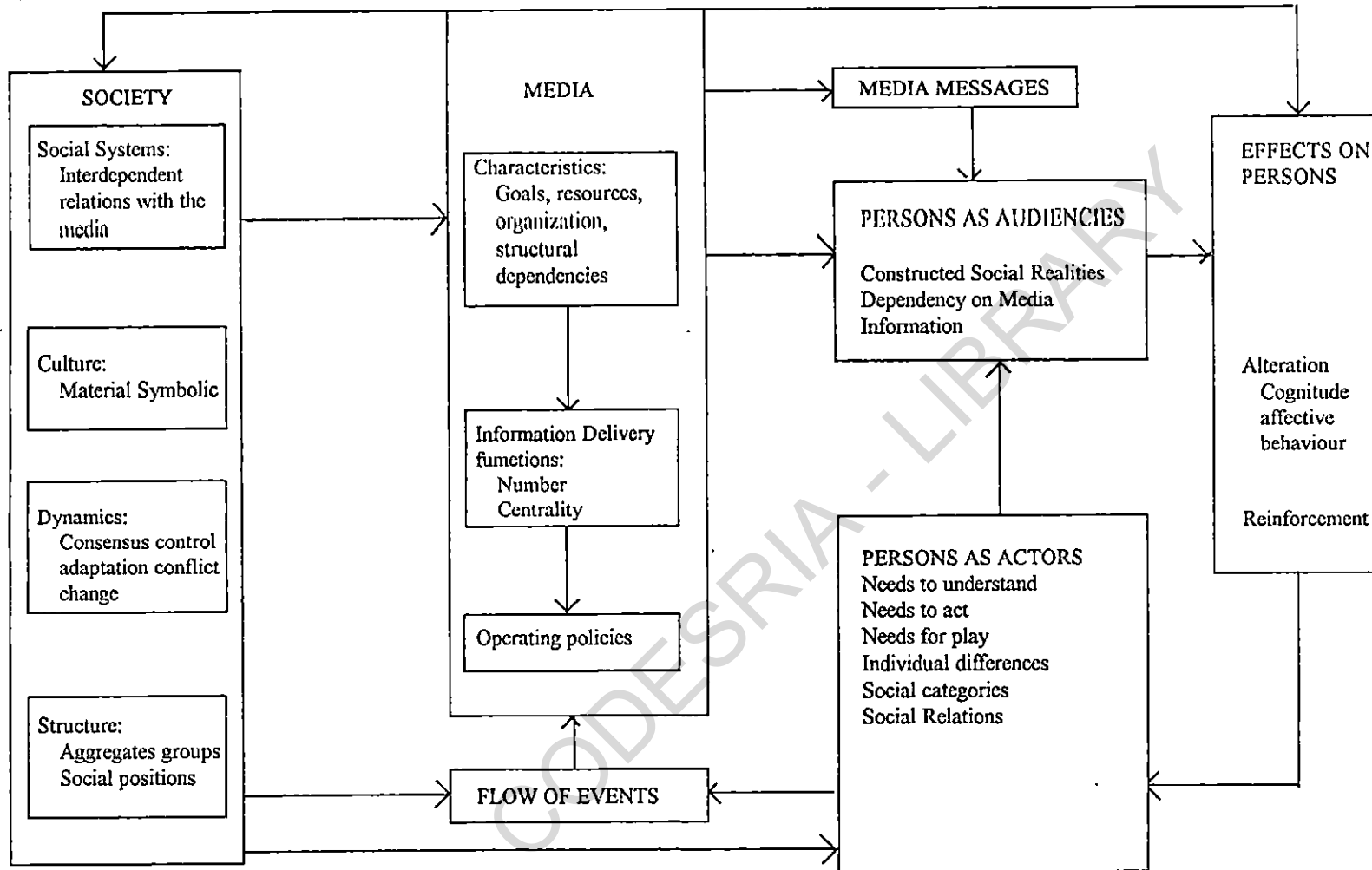


Fig. 3.2: Mass media effects on Individual: An Integrated Model

Source: DeFleur, M.L. and S.J. Ball-Rokeach ('982) *Theories of Mass Communication*. New York, Longman, p. 252.

In a similar observation, the societal system operates to create needs within persons, how the media shape people to develop dependencies on the media is to satisfy these needs. Individual women farmers use of the media depends largely on the credibility status of such media organisations. The schematic representation (Figure 3.2) shows that members of a given social system encounter media messages with some degree of satisfaction. This is based on the relevance of such messages and this creates a "dependency syndrome", that is a continuous dependence on the mass media for vital information to address their problems. This is further explained by the media use pattern among women farmers (Fig. 3.3). The more the mass media satisfy or bridge their information need gap the more the audience will depend on the message outlet for vital information to address their problems.

3.2. ELEMENTS OF THE CONCEPTUAL FRAMEWORK

It is assumed in this model (Fig. 3.3) that three organisations play fundamental roles in the interactional process between the principal actors in agricultural information generation and dissemination. These organisations embrace extension and research agencies, various media organisations and the media practitioners who work in such organisations. The elements that make the model functional include the following:

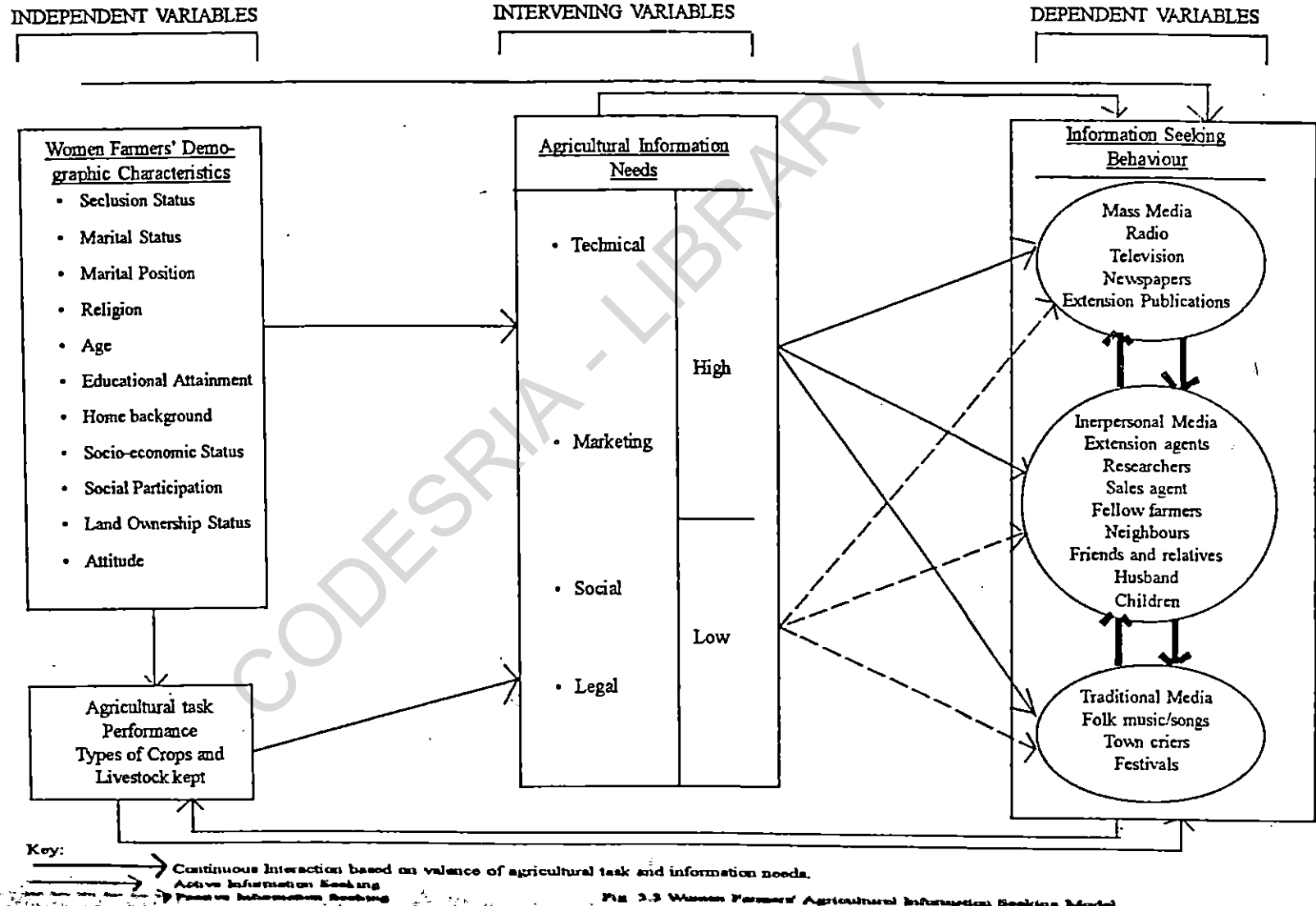


FIG 3.3 Women Farmers' Agricultural Information Seeking Model

3.2.1 Independent variables:

The independent variables of this framework consists of the women farmers' characteristics. These are characteristics such as seclusion (pudah) status, home background, socio-economic status, age, marital status, marital position, religion and educational attainment. Other characteristics are social participation, land ownership status, attitude, agricultural tasks performed types of crops and livestock kept.

3.2.2 Intervening variables

These are the intermediate variables between women farmers characteristics and their media use pattern. In this framework, agricultural information needs constitute the intervening variables. Agricultural information needs are classified into Technical, Marketing, Social and Legal. These information needs vary from low to high for individual women farmers.

3.2.3 Dependent variables:

The dependent variable in this study is the information seeking behaviour of women farmers. In this context, a woman is either actively or passively seeking information from the message outlets. This phenomenon is derived from the paradigm of information networking.

According to Atkin (1973), there exists cognitive uncertainty in individuals. This represents what the individual information seeker does not al-

ready know. In this case, the individual's level of knowledge about certain aspects of agricultural practices varies along a continuum, from total uncertainty to total certainty. Therefore, affected persons may resort to actively or passively seeking solutions to the varying degrees of uncertainty or certainty. Hence, whenever the individual woman farmer is unsure about how to execute some obligatory tasks or undertake a voluntary action sequence, she is compelled to search for the best way to address the situation. In essence, therefore, information seeking behaviour involves the seeking, avoiding, and processing of information. That is, the individual woman farmer has a net information need which consequently directs her information seeking behaviour (active or passive). This information seeking behaviour is a strategy for gathering sufficient data to address the perceived "information-gap". Information gap in this context refers to the agricultural information needs of women farmers or inadequacies in their knowledge of certain basic practices with particular reference to technical, marketing, social and legal agricultural information. This model presupposes that development starts with the needs of intended women beneficiaries. Indeed, earlier researchers (Kearl, 1978 and Havelock, 1979) have asserted that users' need is paramount in any development programme.

3.2.4. Information seeking behaviour

Information seeking behaviour in this framework are construed to mean interaction with available sources of information by women farmers. These sources of information comprise communication channels where women

farmers seek for agricultural information. They are classified according to the methods of information dissemination. That is, the way messages are made available to the audiences (mass or one-to-one). Under such a classification, the mass media are made up of mass mediated channels available for information dissemination in agriculture. These include radio, television, newspapers and extension publications. Those professionally trained to work in these media organisations, known as media practitioners, consist of all categories of journalists who practice in both the print and electronic media. They generally act as gatekeepers as they decide what messages will be printed or broadcast. Therefore, their attitude towards women farmers, either favourable or unfavourable, will determine their willingness to incorporate women farmers in media programme production or focus on women farmers in their programmes.

The interpersonal media in this framework refer to agencies and individuals who communicate with women farmers, on face to face basis. This consist of extension organisations which serve as the nerve centre of "clearing house" of agricultural development programmes. Under the current extension dispensation, extension agents constitute the vital link between extension agencies and the farmers in the interpersonal communication process. In view of the constraints on male extension agents access to secluded women farmers, the agricultural development programmes in Nigeria introduced the Women in Agriculture (WIA) component into their programmes. Under this arrangement, women extension agents are trained to perform various extension activities.

Researchers within the message outlet of this model, are experts who specialise in various fields of agriculture. (crops, livestock, forestry and fisheries). They are involved in developing appropriate technologies that are in consonance with the particular needs of the farmers through on-station and on farm research into specific crops or livestock. Therefore, they are always "loaded" with series of tested and certified agricultural messages ready for farmers use. Fellow farmers, neighbours, friends, relatives, husbands and children, as media outlets, are assumed to be the closest individuals to women farmers.

The traditional media in the model refer to indigenous forms of communication that are peculiar to the inhabitants of a locality and culture. Some of these include folk music/songs, town-cries and festivals.

3.3 How the model works

The model functions in accordance with the potency of each component. The block loop in this model indicates a feedforward mechanism which depends on a continuous interaction between women farmers and message outlets. The media practitioners from radio, television, newspapers, extension liaison agencies and publication units of agricultural development agencies produce and package agricultural information in form of messages that are in line with the agricultural tasks performed by women farmers. In this process, based on the tasks performed, women are continuously interacting with various message outlets in search of relevant messages for the

types of crops and livestock kept. It is against this background that Obilade (1989) identified three fundamental functions of feed-forward in communication process; goal setting, establishment of expectancies and planning contingencies. The questions and contributions anticipated by actors in a communication network of this orientation enhance response and re-packaging of information to address questions raised.

The demographic characteristics of women farmers influence the type of agricultural information they seek, based on the type of agricultural task they perform. Considering the differences in women farmers characteristics; their agricultural information needs could vary and consequently influence individual media use pattern or information seeking behaviour. In addition, the degree to which a particular information type is needed will depend on the women farmers "information-gap". A woman farmers' information-gap is either high or low. Therefore, the degree of information need determines whether a woman will actively or passively search for needed information from the mass, interpersonal or traditional media. This phenomenon depends to a great extent, on the importance of agricultural task performed by the woman farmer. That is, if the task performed is of paramount importance to her success in the enterprise (crop or livestock), she will be actively involved in the use of available media. For example, a secluded woman farmer may have a high need for technical information to enhance her knowledge or skill about a particular farm operation e.g., application of pest control chemicals on a cowpea farm. This model predicts that she may either wait passively for the extension agent, or in the alternative, actively

seek information from the radio or search for the salesman or extension agent for further explanation. However, search could also be constrained by *pudah* status, since women in *pudah* may not have direct access to the salesman or researcher as their non-*pudah* counterpart may have. This situation will dictate whether they will actively use the mass media more than other media (interpersonal and traditional). Therefore, the principles of information seeking in this case depends on how important such information is to the woman farmer. Similarly, her agricultural tasks may also influence her information seeking behaviour, depending on how important such tasks are to the individual woman farmer. In essence, these phenomena, could be explained further by variations in the degree of information need and the task they perform under various crops and livestock enterprises on one hand, and their demographic characteristics, on the other.

The implication of these analogy is that women with high information need index will actively seek the type's of information needed at a particular time from any of the message outlet. While those with low information need index will passively seek the type of information needed at a particular time from any of the message outlets too.

In this model, the principal actors in the message outlets are continuously interacting among themselves. They are involved in exchanging ideas and messages as well as in carrying out collaborative activities. For instance, to maximise the potentials of existing mass media channels, extension pro-

professionals are continuously interacting and exchanging development ideas with other principal actors (media practitioners) in the information network. Similarly, researchers interact with the farmers on a face - to -face basis, or issue press statements or releases to the mass media organisations and extension agencies on new technologies for dissemination to farmers. In another dimension, extension organisations could pass on messages to traditional media "practitioners" such as folk musicians to produce songs that are either sang during festivals or produced on cassette players that individuals farmers could purchase and listen to at their own leisure. Alternatively, mass media organisations, with particular reference to the electronic media (radio, television, cinema and video tape recorders (VTR) could invite star artists to the studio to play specified music with prescribed message content (agricultural information). This is done either in form of live broadcast or recorded cassettes duplicated and sold at reasonable prices to farmers. Similarly, the end product of such production are released and played on continuous basis on the radio and television. Also video cassettes could be played at village viewing centres and cinema shows organised at strategic places in different communities.

These messages from the various message outlets, to a large extent, reduce or increase the agricultural information need gap of women farmers. Similarly, the message may influence not only the type of agricultural tasks performed but also the efficiency with which they are performed. This also influences or starts the women farmers' active search for information from the various media under the dependent variables.

CHAPTER FOUR

METHODOLOGY

This chapter presents the research methodology used in this study. It discusses the research procedure and data analysis.

4.1 THE STUDY AREA

This study was conducted in north-central Nigeria. The area is made up of Kaduna and Katsina states.

4.1.1 Location

Geographically, the states are located in the centre of northern Nigeria. This area occupies a total land space of 70,209.4km², about 8% of Nigeria's land area (Kaduna State Agricultural Development Project, KASDP, 1983).

It is located between latitude 9°00 and 13°50 north of the Equator, longitude 6° 00 and 9° 00 east of the prime meridian.

The states share common boundaries with many states in northern Nigeria. Katsina state is bounded on the north by Niger Republic; on the west by Sokoto state; on the south by Kaduna state and on the east by Kano state. Kaduna State on the other hand is bounded by Katsina state to the

north; south-west by Niger State; south by Federal Capital Territory (Abuja); north-east by Bauchi state and south-east by Plateau State.

4.1.2 Choice of the study area

The choice of north-central Nigeria for this study was due to several reasons. These hinge on the centrality of the two states in the northern region. In addition, there is preponderance of women in seclusion (pudah) in the study area. The study area is a typical representation of the diverse social, economic, cultural, religious, rural and urban setting found in the northern states of Nigeria. The presence of various mass media organisations within the region makes the area suitable.

4.1.3 Agricultural enterprise

Both Kaduna and Katsina States, located in the study area consist of predominantly on agrarian population. The climate allows for the cultivation of a variety of food crops in addition to other agricultural activities. However, small scale farming is a common feature and women involvement in agricultural activities is quite pronounced. One of the first three World Bank assisted Agricultural Development Projects (ADPs) in Nigeria was located in Funtua, Katsina State.

Nearly half of the population in the entire Kaduna and Katsina state live in the rural settlement of less than 1,500 inhabitants, while 15-20% live in urban areas of 20,000 people or more (Kaduna State ADP, 1983). The bulk of their agricultural production is from manually cultivated rainfed crops. In the far north (Katsina area), the range of crops cultivated is limited to

millet, sorghum, groundnut, beans, cotton and vegetables (tomatoes, pepper, onion and amaranthus). In the south (Kaduna area), the range of rainfed crops vary with greater potential for maize, soybeans, cassava, yam, cocoyam, and potatoes. Rice and sugar cane are cultivated in fadama (Lowland) and irrigated lowland areas. However, intercropping is a prevalent practice throughout the entire study area.

Livestock production under the traditional management practices predominates. Animals kept by farmers include cattle, sheep, goats and poultry. However, due to the prohibition placed on pork consumption in Islamic religion, pig husbandary is restricted to the southern parts of Kaduna, a Christian dominated area.

4.1.4 Climate

Kaduna state has a mean rainfall of 1,524mm, while Katsina has 635mm. The raining season commences in April and May in Kaduna and Katsina states respectively. Rainfall is primarily governed by movement of the inter-tropical convergence zone; consequently, there are sometimes two minor rainfall peaks, the first occurring in July, and the second, in August. The length of the rainy season varies from 90 days in the far north (Katsina state) to a maximum of 200 days in the south (Kaduna state).

The dry season extends from October to March and is marked by the hot dry north easternly harmattan winds. It is hotter and drier in the far north (Katsina state) (KASDP, 1983).

4.1.5 Vegetation

Natural vegetation is mainly of the savannah type and is subdivided on the basis of the two main ecological zones:

(i) **Sudan Savannah zone**

Katsina State is located within the Sudan Savannah. It is characterised by a sparse covering of the original vegetation of shrubs, trees, and grass. This is because some 40-60% of the land is cultivated while the other area has been cut over for firewood and is severely overgrazed, due to high incidence of livestock husbandary.

(ii) **Guinea Savannah zone**

Kaduna state which is more to the south and west, is made up of Guinea Savannah. There is less population pressure and only 30% of the land is cultivated annually.

The zone is tsetse fly infested though it has been eradicated in some areas. This account for low incidence of cattle rearing compared to the far north (KASDP, 1983).

4.1.6 Topography and soils

The topography of the study area is dominated by gently rolling land which rises from an elevation of about 430 metres in Katsina state to an average of 859 metres in the south - east of Kaduna State.

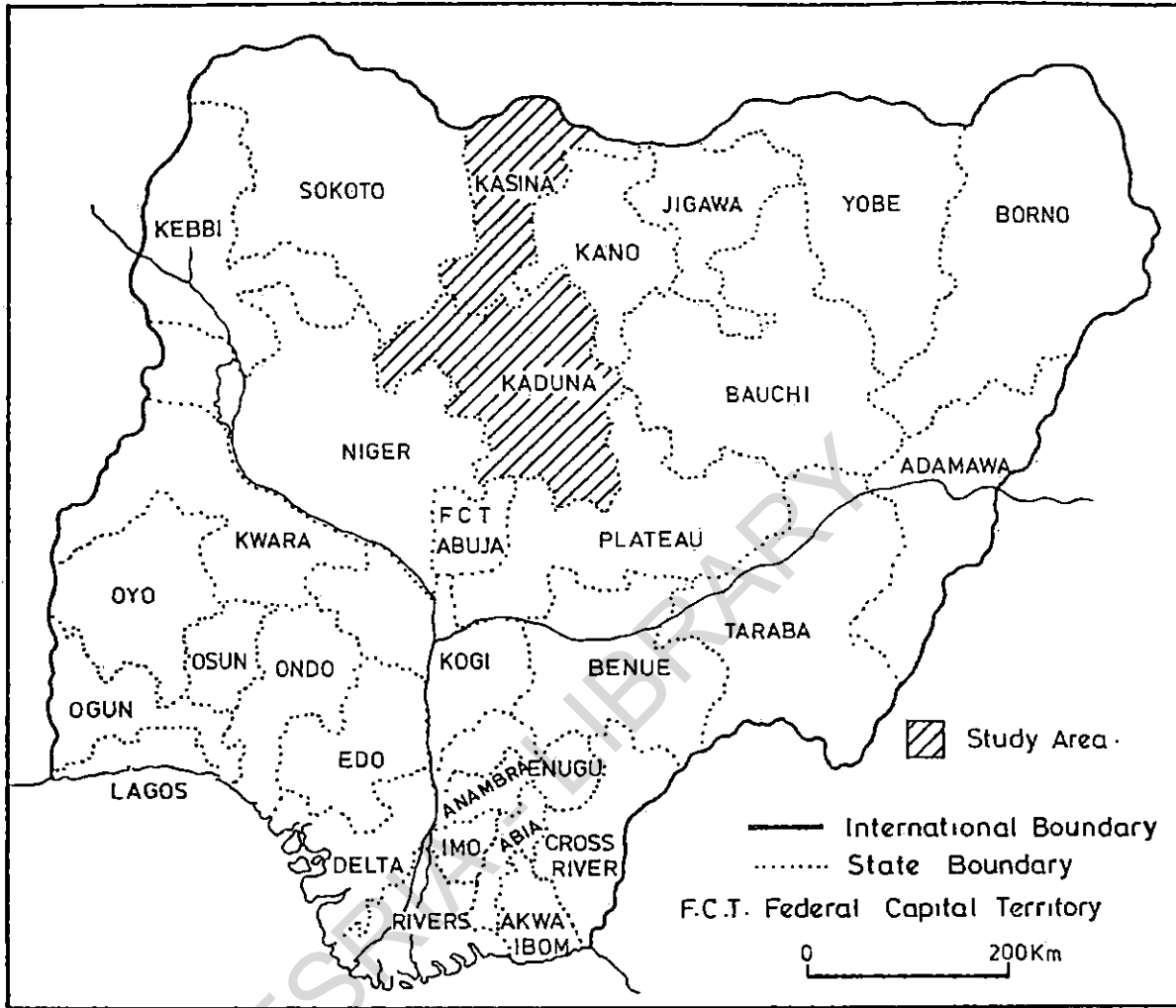


Fig:4.1. Map of Nigeria showing the 30 states and the study area
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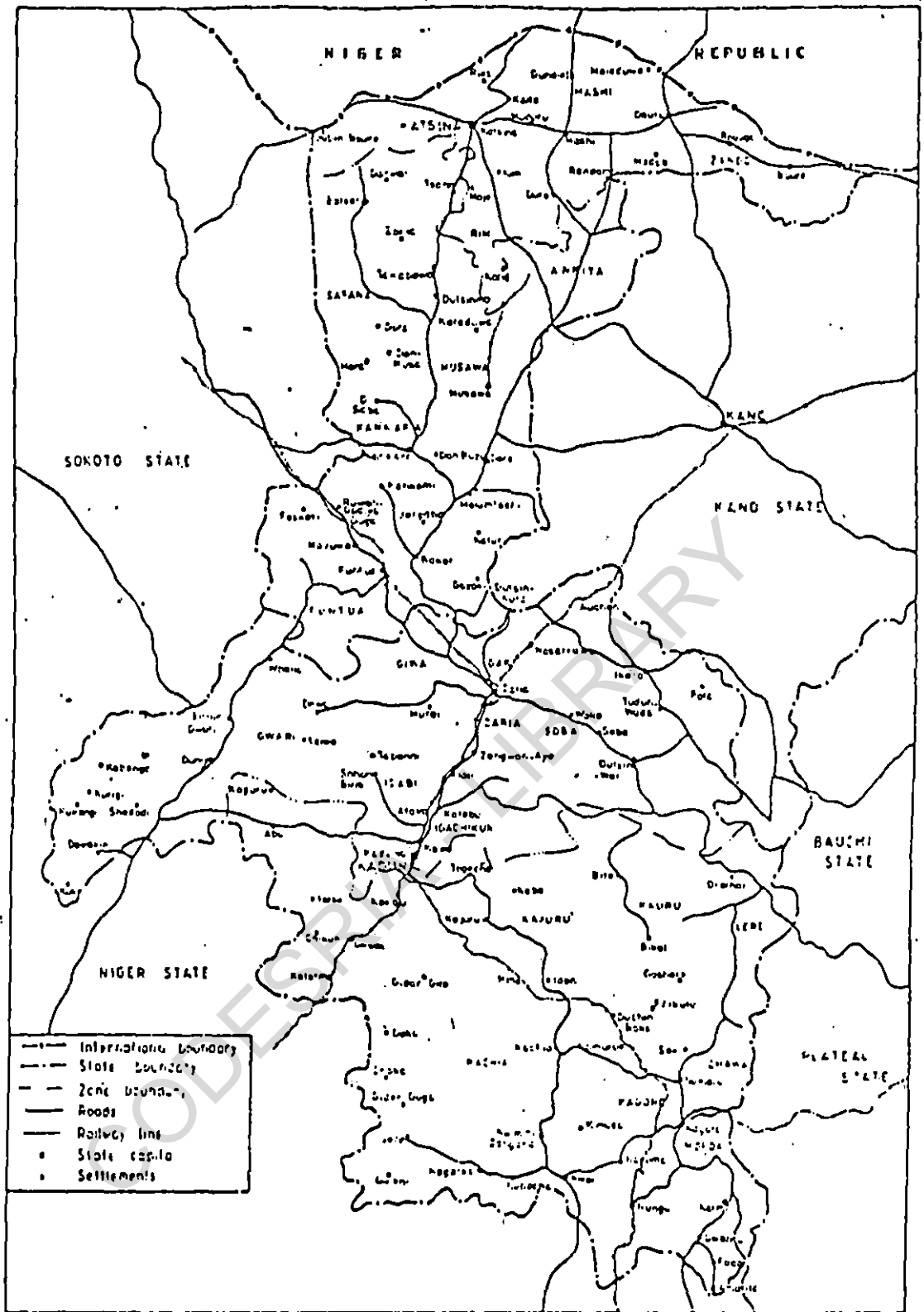


Fig.4.2: Map of North-Central Nigeria showing Kaduna and Katsina states

This explains the high incidence of rocky hills in the south - east of Kaduna State that shares a common boundary with Plateau state.

Kaduna state forms the watershed of Kaduna river basin, while Katsina forms that of Sokoto River. Most of Kaduna State, with the exception of the rocky south east, has as its underneath a crystal line rock basement complex covered by a thin, discontinuous layer of weathered granite ranging in depth from 15-50 metres. In Katsina State on the other hand, extensive areas are covered by dune sands. Soils are generally light in texture with a medium to low pH, and have limited reserves of plant nutrients, particularly Nitrogen and Phosphorus. The situation in Kaduna State is not the same because of higher vegetative cover and higher incidence of organic matter decomposition which enhances nitrogen level in the soil. Though, due to higher rainfall the pH varies from high to medium. Generally, there is low incidence of organic carbon and deficiencies in micro nutrients, particularly boron (Oguntoyinbo, *et al*, 1983)

4.1.7 Agricultural Development Project (ADPs) in the study area

(i) Kaduna State Agricultural Development Project (KASDP)

Kaduna State ADP originated as a follow up to the Funtua Agricultural Development Project (FADP) which completed its five year development phase in 1979. The projectt successfully took off in 1983, following a new World Bank/Federall Government/Kaduna State Governments agreement.

Administratively, KASDP is organised into six sub-programmes and each is headed by a director. The sub-programmes are:

- (i) Management and administration.
- (ii) Human resources development
- (iii) Extension and technical services.
- (iv) Planning, monitoring and evaluation unit.
- (v) Finance and commercial services.
- (vi) Cooperative development unit.

Under this structure, Women in Agriculture (WIA) component was incorporated in 1990. The unit is headed by a woman under the director of extension and technical services.

There are four project zones, covering the entire state. The zones are each headed by a zonal manager. The zones are:

- (i) Maigana.
- (ii) Birnin Gwari
- (iii) Samaru-Kataf.
- (iv) Lere.

In each zone, there is a WIA Subject Matter Specialist (SMS) who liaises and supervises the WIA block extension agents. In the state, because of limited number of WIA extension agents,. The WIA block extension agents cover all the extension cells in their respective blocks.

(ii) **Katsina State Agricultural and Rural Development Authority (KTARDA)**

Katsina state Agricultural and Rural Development Authority (KTARDA) was established in 1989 following the creation of Katsina State in 1987. It inherited some assets from the Funtua enclave project and some from the Kaduna State ADP.

The KTARDA is headed by a Managing Director (M.D.). For administrative purposes, the project is subdivided into seven sub-programmes each headed by a director. The sub-programmes are:

- (i) Administrative and legal services.
- (ii) Human resources development.
- (iii) Technical services.
- (iv) Planning, monitoring and evaluation.
- (v) Finance and
- (vi) Rural Development.

Within this administrative structure, Extension Services and Women In Agriculture are both in the technical services department. WIA component is headed by a woman. The unit started operation in 1990.

For operational basis, the project is divided into three zones covering the entire state. Each zone is headed by a zonal manager. The zones are:

- (i) Ajiwa
- (ii) Funtua

(iii) Dutsimma.

4.1.8 Mass media organisations in the study area

There are several mass media organisations in the study area. In Kaduna metropolis alone, there are the following mass media houses.

- (i) Federal Radio Corporation of Nigeria (FRCN), also known as Radio Nigeria, Kaduna.
- (ii) Kaduna State Radio Corporation.
- (iii) Nigeria Television Authority (NTA) Kaduna
- (iv) New Nigeria Newspapers and Gsakiya tafi kwabo (vernacular newspaper), both published by Northern Nigeria Newspapers (NNN)
- (v) The Democrat
- (vi) The Sentinel magazine and Nasiha (vernacular newspaper) both published by Nationhouse Press Ltd.
- (vii) The Citizen magazine
- (viii) The Hotline magazine.

Also, there is a comprehensive media production unit at the National Agricultural Extension and Research Liaison Services (NAERLS) in Zaria, Kaduna State. It has played a significant role in agricultural information dissemination in the entire northern region since its inception in 1963. Apart from its central location in the study area, it produces relevant agricultural programmes from its radio and television studios for all the ADPs and radio and television stations in northern Nigeria. Similarly, its functional

publication unit publishes extension bulletins, leaflets, and posters in different languages common to northern Nigeria (English, Hausa, Nupe and Arabic (Ahjemi). Also, it publishes an academic journal (The Nigerian Journal of Agricultural Extension).

In Katsina State, there are three media organisations, though electronic only. These include:

- (i) The Nigerian Television Authority (NTA), Katsina.
- (ii) Katsina State Television (KSTV)
- (iii) Katsina State Broadcasting Corporation.

Existing traditional media in the area include folk music/songs, town criers, traditional sign posts and festivals.

4.2 SAMPLING PROCEDURE

The target population of this study consisted of women farmers and media practitioners in Kaduna and Katsina States. In essence, there was sampling of women farmers as well as of media practitioners.

A multi - stage and stratified sampling technique was used to select respondents for this study. The sample was drawn using the following procedure.

4.2.1 Sampling women farmers in Kaduna State

Stage 1: The four zones of Kaduna State Agricultural Development Project were all included in the sample.

Stage 2: Two blocks (20%) of the 10 extension blocks in each zone were randomly selected.

Stage 3: This stage involved sampling of woman farmers from each block. Sampling at this stage was based on two criteria:

- (i) The woman farmer must be registered by the block extension agent in charge of the block.
- (ii) She must be an active women farmer who receives extension services regularly.

A sampling frame of woman farmers in selected blocks was obtained from the respective block extension agents. The sampling frame was stratified into secluded and non-secluded women farmers in Birnin-Gwari and Maigana zones where there is a reasonable number of pudah women, while stratification was not considered necessary in Samaru-Kataf and Lere zones, being a predominantly christian areas. Twenty per-cent of registered secluded and non-secluded women farmers were randomly selected from Birnin -Gwari and Maigana zones, while 20% of non - secluded women were selected from Samaru-Kataf and Lere zones. This procedure resulted in a sample size of 60 and 180 secluded and non-secluded women farmers respectively. However, 86.3% response rate was achieved as indicated on Table 4.1.

TABLE 4.1
Distribution of secluded and non - secluded woman farmers in Kaduna State ADP zones*

Project Zone	Number of registered women farmers		Number sampled for the study		Number of useful questionnaires	
	Secluded	Non-secluded	Secluded	Non-secluded	Secluded	Non-secluded
Birnin Gwari	150*	205	32	40	22	38
Maigama	148	152	28	30	20	26
Samaru-Kataf	-	300	-	60	-	53
Lere	-	245	-	50	-	48
TOTAL	298	902	60	180	42	165

* Figures are for the 2 blocks sampled in each zone.

4.2.2 Sampling of women farmers in Katsina State

- Stage1: The three zones of Katsina State Agricultural and Rural Development Authority were all included in the sample.
- Stage 2: Three blocks (30%) of the 10 extension blocks per zone were randomly selected.
- Stage 3: This stage involved sampling of women farmers from each of the sampled blocks. A sampling frame of women farmers in the selected blocks was obtained from the respective block extension agents. Sampling was based on only those who met the sampling criteria - registered and receive extension advice.

The sampling frame was stratified into secluded and non-secluded women farmers. Twenty-five percent of registered secluded and non secluded women farmers were randomly selected from each of the sampled blocks. This procedure resulted in a sample size of 125 and 85 secluded and non secluded women farmers respectively. However, 80.5% response rate was achieved as shown on Table 4.2.

TABLE 4.2
Distribution of secluded and non-secluded women
farmers in KTARDA Zones*

Project Zone	Number of registered women farmers		Number sampled for the study		Number of useful questionnaires	
	Secluded	Non-secluded	Secluded	Non-secluded	Secluded	Non-secluded
Funtua*	150*	120	40	30	38	24
Dustinma	200	110	55	30	45	21
Ajiwa	120	100	30	25	18	23
Total	—	330	125	85	101	68

* Figures are for the 3 blocks sampled in each zone.

4.2.3 Sample size

On the whole a total of 450 women farmers were ramped from the selected extension blocks in the entire study area. However, due to cases of withdrawal by some respondents during interview sessions their questionnaires were discarded. Therefore, only 376 women farmers successfully participated in the study. Thus 83.5% response rate was achieved. Hence, the sample consisted of 143 secluded (pudah) women farmers and 233 non secluded (non-pudah) women farmers.

4.2.4 Sampling of media practitioners

Another set of respondents in the study were the media practitioners drawn from the mass media establishments in Kaduna and Katsina states.

4.2.4.1 Kaduna state

The procedure for the selection of media practitioners involved the use of all media staff at the National Agricultural Extension and Research Liaison Services (NAERLS), Zaria. The sample consisted of 12 farm broadcast staff and 4 members of staff of the publications unit. However, only 8 returned their questionnaires (50% return rate).

Media practitioners in six of the eight media establishments located in Kaduna were sampled in the study. However, media organisations that publish magazines were excluded from the population due to lack of continuity in publication of most of the magazines during the period of study.

A list of the media practitioner was obtained from the news editor in the newsroom of each media organisation. From each list, about 30% of media practitioners were randomly selected.

TABLE 4.3
Distribution of media practitioners in Kaduna State

Media organisation	Staff Strength	Number sampled	Number of useful questionnaires returned
(i) Radio Nigeria Kaduna	75	25	20
(ii) Nigerian Television Authority	30	10	10
(iii) New Nigeria Newspapers	70	25	18
(iv) The Democrat	60	20	17
(v) Nasiha	25	10	10
(vi) Kaduna State Radio Corp.	65	20	12
TOTAL	325	110	87

This procedure resulted in a sample size of 110 media practitioners. However, only 87 returned useful questionnaires (79% response rate).

4.2.4.2 Katsina State

From the three media organisations in Katsina State, a list of media practitioners was obtained. From this list, about 50% of the practitioners were randomly selected. Distribution of respondents is as shown in Table 4.4.

TABLES 4.4
Distribution of media practitioners in Katsina state.

Media organisation	Staff strength	Number sampled	Number of useful questionnaires returned
(i) Katsina State Radio	35	15	10
(ii) Katsina State Television	30	15	8
(iii) NTA Katsina	15	10	7
TOTAL	80	40	25

A total of 40 media practitioners were sampled in the study. However, a 62.5% response rate was achieved.

4.2.4.3 Sample size

On the whole, 156 media practitioners were sampled for the study. Of this, only 120 returned useable questionnaires (72% return rate).

4.3 SOURCES OF DATA

The data used in this study were obtained from primary sources only (questionnaire/interview schedule).

The primary data were obtained from two categories of women farmer. They comprised registered women farmers in seclusion (pudah) and registered women farmers not in seclusion (not in pudah). In addition, another category of respondents were the media practitioners in the study area.

4.3.1 Instrument for data collection

Two separate research instruments were used to obtain data from the primary sources.

- (i) A questionnaire was designed and administered to media practitioners. The questionnaire had three sections; A, B and C. Section A was a 5 point Likert-type attitudinal scale having 30 items. Section B contained open ended questions that elicited media practitioners suggestions on how to improve women farmers participation in media programmes. On the other hand, Section C contained questions about media practitioners demographic characteristics.
- (ii) The second instrument was a comprehensive interview schedule referred to as Interview Schedule for Women Farmers (ISWF). It consisted of both open and close - ended questions related to the objectives of the study. The instrument had 6 sections. The sections are as follows:

Section A: Section A solicited information from women farmers socio - economic status (SES). The questions on SES focused on (i) Farm size (ii) Farmland under cultivation (iii) Types of crops cultivated and livestock

kept and (iv) Possession of household items (such as house types, furniture, plates, cloth boxes and jewelry).

Section B: Section B sought information on (i) Women farmer's social participation status (ii) Membership of various associations (iii) Participation in association activities.

Section C: Section C identified agricultural tasks performed by women farmers in relation to their degree of involvement.

Section D: Section D was designed to elicit information on the degree of agricultural information needed by women farmers. This had to do with technical, marketing, social and legal information types.

Section E: In section E, questions relating to media use pattern of women farmers were asked. Such questions consisted of listening/viewing frequency/subscription status, time of viewing/listening and programme preference. It also identified others with whom respondents use various media types (radio, television, newspapers, extension publications and traditional media) for agricultural information. Each medium was treated separately. Also, a 20 - item Likert-type attitudinal scale was included.

Section F: Section F was designed to elicit background information on respondents demographic characteristics. These included:

- (i) Age
- (ii) Native language
- (iii) Marital status
- (iv) Marital position
- (v) Educational attainment

- (vi) Residence status
- (vii) Religion
- (viii) Land ownership status
- (ix) Major sources of income
- (x) Secondary sources of income
- (xi) Farming experience.

4.3.2 Pre-testing the instrument

The draft of the questionnaire and interview schedule were pretested in Niger state between July and August 1994. The choice of Niger State was based on its similarity to the study area.

The questionnaire for media practitioners was administered to 20 journalists from both print and electronic media located in Minna, Niger State, while the interview schedule was administered to 30 women farmers in Bida zone of Niger State ADP. Jima - Doko extension block was purposively selected for the pretest.

Based on the responses in the pretest, some questions were modified to improve clarity and eliminate ambiguity in the instrument. This modification reduced the duration of the interview schedule from 2 hours to 90 minutes. In addition, the entire instrument was translated to Hausa language as a guide for the enumerators. Each enumerator was provided with a copy of the translated version of the instrument.

4.3.3 Reliability and Validity of the Instrument

4.3.3.1 Reliability: To ensure that the data obtained from the instrument are reliable and consistent, an analysis of internal consistency of the instrument was carried out.

The questionnaire for media practitioners was analysed, using Kuder - Richardson formula (KR-20) which resulted in a correlation coefficient of $R = .793$. Also the reliability of the Interview Schedule For Women Farmers (ISWF) was determined, using Kudar-Richardson Formula (KR-20). The results of test are shown on Table 4.5.

4.3.3.2 Validity: To ascertain the validity of the instrument, a content validity of the instrument was done by communication experts.

4.3.4 Training of enumerators

Four enumerators and two research assistants were hired in each zone. The four enumerators were females and were assisted by 2 male research assistants who were familiar with the socio-cultural terrain of the project zone. The enumerators and research assistants had academic qualifications ranging from National Diploma (ND) to Higher National Diploma (HND)

A training session was organised for enumerators and research assistants in each project zone. During the training sessions, enumerators were familiarised with the instrument. The translated version of the instrument was used during the sessions. The training sessions lasted 3 1/2 hours daily for 3 days in each zone.

TABLE 4.5
Result of reliability determination using Kudar-Richardson (KR-20)
Formula on the Interview Schedule For Women Farmers (IWSF)

Class	Index on the ISWF	CRONBACH COEFFICIENT ALPHA	
		Raw variables	Standard variables
A	Sociol-economic status	.801	.818
B	Social participation	.898	.916
C	Agricultural task performed	.954	.954
D	Technical information need	.909	.909
E	Marketing information need	.915	.915
F	Social information need	.929	.929
G	Legal information need	.943	.943
H	Available Sources of Information	.927	.924
I	Extent of Information provided	.869	.869
J	Desire to participate in radio programmes	.930	.929
K	Radio programme preferred	.989	.989
L	Duration preferred for agric. programme	.606	.532
M	Place of listening to agric programme	.871	.874
N	Attitude towards radio programme	.931	.931
O	Problems that affect listening to radio	.883	.882
P	TV progarmme preference	.982	.983
Q	Attitude towards TV programme	.969	.969
R	Constraints to watching agric. programmes	.040	.949
S	Appealing articles in a newspaper	.984	.984
T	Constraints to reading extension publications	.931	.931
U	Types of publications and preferred langauge	.964	.961
V	Content of extension publications	.942	.945
W	Attitude towards extension publications	.952	.952
X	Constraints to reading extention publications	.902	.901
Y	Forms of publications preferred	.928	.928
Z	The use of traditional media	.930	.921
AA	Mode of listening to traditional media	.645	.682
BB	Importance of traditional media messages	.738	.768
CC	Attitude towards traditional media	.916	.917
DD	Problems of folk media	.921	.922
EE	Influence to radio use	.894	.895
FF	Influence to the use of TV	.953	.953
GG	Influence to the use of newspapers	.954	.954
HH	Influence to the use of extension publications	.956	.956
II	Influence to preference of traditional media	.950	.950

4.3.5 Administration of instrument

The investigator supervised each enumerator and research assistants in the first few interview sessions. The interview schedules were administered to respondents in their homes with due permission from their husbands. Some of the interviews were conducted in the presence of their husbands or elder children. Those who refused to continue the interview due to lack of cooperation either at the beginning or mid-way, had their interview schedules discarded for incomplete information. Data for this study were collected between September 1994 and January 1995.

4.4 MEASUREMENT OF VARIABLES

The following variables were measured in this study.

4.4.1 Media practitioners attitude

Media practitioners attitude towards involving women farmers in media programme production was determined using the Likert- type scale. Attitude was assessed on a five point Likert-type scale. The Likert-type scale contained 30 items which were scored in a descending order for all positive statements as follows:

Strongly agree (5 points), Agree (4 points), Undecided (3 points), Disagree (2 points) and strongly disagree (1 point). Negative statements, on the other hand, were scored in reverse order, thus strongly agree (1 point),

Agree (2 points), Undecided (3 points), Disagree (4 points) and strongly disagree (5 points).

Individual respondents' total score was calculated through summation of all the scores on items 1 to 30. This resulted in an overall attitude index score with a maximum score of 150 points and a minimum score of 30 points. Their attitude score was further dichotomised into favourable and unfavourable attitudes. Consequently, respondents were classified into two categories as follows:

Respondents with 30 - 90 points = unfavourable attitude

Respondents with 91 - 150 points = favourable attitude.

4.4.2 Socio - economic status(SES)

Women farmers' socio-economic status was determined using the following variables:

(i) Farm size and available farmland under cultivation. Available farm size (in hectares) was scored as follows:

1-5ha = 1 point

6-10ha = 2 points

above 10ha = 3 points.

Farmland under cultivation between 1993 to 1994 for plots 1-4 for various crops cultivated in the region were categorised and scored as follows:

Crop Categories:

(a) Cereals (maize, millet, sorghum and rice)

(b) Root-crops (cassava, yam, and potatoes)

- (c) Legumes (beans, soyabeans, bambaranut)
- (d) Vegetables (tomatoes, pepper, onion, okro and amaranthus)

For the four categories, each attracted the following score based on hectare cultivated:

1-5ha	= 1 point
6-10ha	= 2 points
above 10ha	= 3 points.

(ii) Livestock husbandary

Livestock kept was scored for type and number, type of breed, management practices and uses.

(a) The type and number of livestock

Types of livestock scored are cattle, goats, sheep, poultry, pig and camel:

For each type of livestock kept, the number kept was scored as follows

1 - 5	= 1 point
6-10	= 2 points
above 10	= 3 points

(b) Type of breed: Each livestock breed was scored as follows:

Local breed	= 1 point
Improved breed	= 2 points

(c) Management practices: Management practices of each livestock type was rated as

Intensive	= 3 points
Semi-Intensive	= 2 points
Free-range	= 1 point

(d) Uses: Each livestock types kept was rated for its use as follows:

Gifts	= 1 point
Farm work	= 2 points
Sales	= 3 points
Household consumption	= 4 points

(iii) House type:

The type of house were classified into four distinct types. Respondents were asked to indicated the types and number of houses they possessed and these were scored thus:

1-2 houses	= 1 point
3-4 houses	= 2 points
5 houses and above	= 3 points.

In addition, the types of roofing each house is made of was scored as follows:

- plastered and painted house with cement decking or corrugated roofing sheets = 4 points
- plastered only with cement decking and corrugated roofing sheets only = 3 points
- -mud houses and mud decking only = 2 points
- -huts made of grass or sorghum stalk and bamboo sticks only = 1 point

(iv) Furniture types and number used for interior decoration.

The type of furniture and number possessed were scored as follows:

<u>Type</u>	<u>Number</u>	<u>Score</u>
A set of cushion chairs and thick foam	1-2	= 1 point
A set of cushion chairs and thick foam	3-4	= 2 points
A set of cushion chairs and thick foam	5 and above	= 3 points
Spring chairs and light foam	1-2	= 1 point
Spring chairs and light foam	3-4	= 2 points
Spring chairs and light foam	5 and above	= 3 points
Wooden chairs	1-2	= 1 point
Wooden chairs	3-4	= 2 points
Wooden chairs	5 and above	= 3 points
Floor rug	1-2	= 1 point
Floor rug	3-4	= 2 points
Floor rug	5 and above	= 3 points
Plastic carpet	1-2	= 1 point
Plastic carpet	3-4	= 2 points
Plastic carpet	5 and above	= 3 points
Floor mat	1-2	= 1 point
Floor mat	3-4	= 2 points
Floor mat	5 and above	= 3 points

(v) Types and number of plates:

Respondents provided information on ten types of household plates.

The number of plates possessed for each plate type was scored as follows:

1-5 plates	= 1 point
6-10 plates	= 2 points
11-15 plates	= 3 points
16-20 plates	= 4 points
21 and above	= 5 points

For all the 10 plate types listed, the maximum score obtainable was 50 points and a minimum of 0 point.

(vi) Cloth boxes:

Respondents indicated the type and number of cloth boxes they possessed. Six types of boxes were indentified and the number possessed was scored thus:

1-2 boxes	= 1 point
3-4 boxes	= 2 points
5 and above	= 3 points

For all the six box types identified, the maximum score obtained was 18 points and a minimum of 0 point.

(viii) Jewelry:

Respondents provided information on 5 types of jewelry they possessed. They were scored based on number and quality (gold plate, silver plate and ordinary types). Each jewelry type and quality was scored for number possessed as follows;

<u>Types and quality</u>	<u>Number</u>	<u>Score</u>
Gold plate	1-2 items	= 1 point
Gold plate	3-4 items	= 2 points
Gold plate	5 items and above	= 3 points
Silver plate	1-2 items	= 1 point
Silver plate	3-4 items	= 2 points
Silver plate	5 items and above	= 3 points
Ordinary type	1-2 items	= 1 point
Ordinary type	3-4 items	= 2 points
Ordinary type	5 items and above	= 3 points

For the five items in each jewelry quality category, the maximum score obtainable is 15 points and a minimum score of 1 point. On the whole, a total of 45 points is obtainable by a respondent and a minimum of 15 points

(ix) Possession of household/farm utensils

A list of 44 items was developed and respondents were requested to indicate the number of such items they possessed. Items possessed were scored as follows:

Zero item	= 0 point
1-2 items	= 2 points
3 items and above	= 3 points

Based on this scoring system, a respondent could have a maximum of 132 points and a minimum of zero. Consequently, possession of household/farm utensils was trichotomised as follows:

1- 45 points	= 1 mark
46-90 points	= 2 marks
91-132 points	= 3 marks

In other words, a respondent's final score on items possessed was either 1, 2, or 3 marks.

A final socio-economic status index (SESI) was obtained by summing all points obtained in 4.4.2.1 (i, ii, iii, iv, v, vi, vii, viii and ix). Maximum score obtainable from this summation is 251 points with a minimum of 75 points. Respondents Socio-Economic Status was then classified based on the distribution of scores as follows:

- (i) Low socio-economic status = 75-125 points

(ii) High socio-economic status = 126-251 points

4.4.3 Social participation index(SPI)

Social participation index of respondents was determined using the following criteria for eight associations:

- (i) Membership of association(s)
- (ii) Office held and
- (iii) Regularity of participation in association's activities.

Respondents' social participation in each association was scored as follows:

- (i) Participation in religious association was scored as

membership	Yes	= 2 points
	No	= 1 point
Office holder	Yes	= 2 points
	No	= 1 point

Degree of participation in association activities:

- Regular = 3 points
- Occasionally = 2 points
- Never = 1 point

- (ii) Participation in farmers union was scored as:

Membership	Yes = 2 points	No = 1 point
Office holder	Yes = 2 points	No = 1 point

Degree of participation in union activities:

Regularly = 3 points, Occasionally = 2 points, Never = 1 point

- (iii) Village Council:

Membership = Yes = 2 points, No = 1 point
 Office holder = Yes = 2 points, No = 1 point

Degree of participation in council activities:

Regularly = 3 points, Occasionally = 2 points, Never = 1 point

(iv) Adashi group:

Membership = Yes = 2 points, No = 1 point

Office holder = Yes = 2 points, No = 1 point

Degree of participation in group activities:

regularly = 3 points; Occasionally = 2 points; never = 1 point.

(v) Women Cooperative group:

Membership = Yes = 2 points, No = 1 point

Office holder = Yes = 2 points; No = 1 point

Degree of participation in group activities:

Regularly = 3 points, Occasionally = 2 points; Never = 1 point.

(vi) Market Women's association:

Membership = Yes = 2 points, No = 1 point

Office Holder = Yes = 2 points; No = 1 point

Degree of participation in association activities:

Regularly = 3 points; Occasionally = 2 points; never = 1

(vii) Radio Club;

Membership = Yes = 2 points; No = 1 point

Office holder = Yes = 2 points, No = 1 point.

Degree of participation in club activities:

Regularly = 3 points; Occasionally = 2 points; Never = 1

(viii) TV Programme Club:

Membership = Yes = 2 points; No = 1 point

Office holder = Yes = 2 points; No = 1 point

Degree of participation in club activities

Regularly = 3 points; occasionally = 2 points; never = 1 point

A final social participation index (SPI) was obtained from summing all points in 4.4.2.2 (1, ii, iii, v, v, vi, vii, and viii). Maximum score obtainable from this summation is 56 points with a minimum of 8 points. Consequently, social participation was classified as

Low social participation status = 8-31 points .

High social participation status = 32-56 points

4.4.4 Involvement in agricultural tasks

The degree of respondents' involvement in various agricultural tasks was determined using a six point rating scale. Twelve agricultural tasks related to on-farm and off-farm activities were itemised. Respondents were asked to rate each item based on individual's degree of involvement and were scored as follows:

Very high Involvement = 5 points

High Involvement = 4 points

Moderate Involvement = 3 points

Low involvement = 2 points

Very low Involvement = 1 point

Not Involved at all = 0 point

Consequently, respondents could have a maximum of 60 points and a minimum of 0 point. Therefore, the degree of involvement in agricultural tasks by respondents was classified as follows :

Low agricultural task involvement = 0- 30 points

High agricultural task involvement = 31-60 points

4.4.5 Agricultural information need index (AINI)

Agricultural information need index was developed, based on some basic agricultural practices. Agricultural information was classified into four major units viz: technical information, marketing information, social information and legal information. Each information type contained ten items and were scored as follows:

Very high need	= 5 points
High need	= 4 points
Moderate need	= 3 points
Low need	= 2 points
Very low need	= 1 point
Not needed at all	= 0 point

Based on this rating scale, respondents could have a maximum score of 50 points and a minimum of zero point for each information type (technical, marketing, social and legal). Consequently, the overall agricultural information need index score was a maximum of 200 points and a minimum of zero point. Therefore, respondents were classified into 3 categories:

- Low Information Need = 0-65 points
- Moderate Information Need = 66-130 points
- High Information need = 131-200 points

4.4.6 Media Use Pattern

Media use pattern related variables were determined based on responses provided by respondents on how they utilize the mass media (radio,

television, newspapers, extension publications and traditional media) for agricultural purposes.

(a) **Radio:**

Respondents provided information with particular reference to radio ownership, favourite stations, listening frequency, preferred listening time, duration of listening/day and desire to participate in radio programmes if invited.

In addition, radio use pattern related variables were measured as follows:

(i) **Participation in radio programmes:**

Fifteen constant programmes of Radio Nigeria, Kaduna were used as reference and respondents were asked to rate each programme on a 3 point rating scale, based on their intention to participate in the programme:

Regularly	= 3 points
Occasionally	= 2 points
Never	= 1 point

Therefore, respondents could have a maximum of 45 points and a minimum of 15 points. They were further classified into two groups based on their scores :

Low radio programme participaton desire	= 15-30 points
High radio programme participation desire	= 31-45 points

(ii) Radio listening habit

Twenty-five general programmes of Radio Nigeria, Kaduna were listed for respondents to rate each programmes on a 7- point rating scale in terms of their listening habit.

Daily	= 7 points
Weekly	= 6 points
Fortnightly	= 5 points
Once in three weeks	= 4 points
Monthly	= 3 points
Once in two months	= 2 points
Once in 3 months	= 1 point.

Therefore, respondents could have a maximum of 175 points and a minimum of 25 points. This was further classified into 2 categories:

Low radio listening status	= 15 - 75 points
High radio listening status	= 76 -175 points

(iii) Radio programme preference

The same 25 general programmes of Radio Nigeria , Kaduna were listed for respondents to rate each programme on a 3- point rating scale in terms of their preference.

Most preferred	= 3 points
Least Preferred	= 2 points
Not preferred	= 1 point

Respondents could have a maximum of 75 points and a minimum of 25 points. This was then classified into 2 categories :

Low radio programme preference status = 1 - 50 points

High radio programme preference status = 51 -75 points

(iv) Listening to agricultural radio programmes

Five agricultural programmes of Radio Nigeria, Kaduna, were listed for respondents to rate on a 7 point rating scale based on their desire to listen to the programmes.

Daily	= 7 points
Weekly	= 6 points
Fortnightly	= 5 points
Once in three weeks	= 4 points
Monthly	= 3 points
Once in two months	= 2 points
Once in three months	= 1 point.

The maximum score obtainable is 35 points and a minimum of one point.

Consequently, respondents were classified into 2 categories:

Low listening desire = 0 -18 points

High listening desire = 19 -35 points

(v) Attitude towards agricultural radio programmes

Women farmers attitude towards agricultural radio programmes was determined using 4- point Likert type attitudinal scale. The rating scale contained 20 items which were scored in a descending order for all positive statements as follows :

Strongly agree	= 4 points
Agree	= 3 points
Disagree	= 2 points

Strongly disagree = 1 point.

Negative statements were scored in reverse order thus :

Strongly agree = 1 point
 Agree = 2 points
 Disagree = 3 points
 Strongly disagree = 4 points.

An overall attitude towards radio programme score was calculated. Individual respondents could obtain a maximum of 80 points and a minimum of 20 points. Consequently, respondents were classified into 2 categories:

Unfavourable attitude = 20-50 points

Favourable attitude = 51-80 points

(b) Television:

Respondents provided information with particular reference to television ownership, favourite channel, viewing frequency, preferred time of viewing/ day and desire to participate in TV programmes if invited.

(i) Television programmes preferred: Television programmes preference of respondents was determined. Twenty-four programmes common to television stations in the study area were listed for respondents to rate on a 3-point rating scale in terms of their preference. Respondents were then scored as follows:

Most preferred = 3 points
 Least preferred = 2 points
 Not preferred = 1 point.

Respondents could therefore have a maximum of 72 points and a minimum of one point. This was classified into 2 categories:

Low television programme preference = 1 - 37 points

High television programme preference = 38 - 72 points

(ii) Attitude towards agricultural programmes on television

Respondents attitude towards agricultural programmes on television was determined using a 4-point Likert type attitude scale. The rating scale contained 20 items which were scored in a descending order for all positive statements as follows:

Strongly agree = 4 points

Agree = 3 points

Disagree = 2 points

Strongly disagree = 1 point.

Negative statements were scored in reverse order thus:

Strongly agree = 1 point

Agree = 2 points

Disagree = 3 points

Strongly agree = 4 points.

An overall attitude towards television programme score was determined. Individual respondents could obtain a maximum of 80 points and a minimum of 20 points. Therefore, respondents were classified into two categories:

20 - 50 points Unfavourable attitude

51 - 80 points favourable attitude

(c) Newspapers:

Respondents provided information with reference to their newspaper use pattern through various responses:

- (i) **Reading status:** respondents indicated whether they read newspaper or not.
- (ii) **Reading frequency:** respondents indicated how often they read newspapers and were scored as follows:

Weekly	= 1 point
Twice a week	= 2 points
Three times a week	= 3 points
Four times a week	= 4 points
Five times a week	= 5 points
Six times a week	= 6 points
Daily	= 7 points

Respondents could score a maximum of 7 points and minimum of one point.

- (iii) **Type of Newspaper read:** respondents indicated whether they read English version or vernacular version and examples of specific newspapers read were indicated.
- (iv) **Type of agricultural columns read:** Respondents indicated the type of agricultural columns read.
- (v) **Interpreter:** Respondents also provided information on whether they will accept an interpreter or not. Similarly, they also indicated their interest to discuss with an interpreter or not.

- (vi) **Appealing articles in Newspapers:** Respondents were provided with a list of 26 common articles found in newspapers and were asked to indicate which articles appealed to them.
- (vii) **Appealing agricultural columns:** Nine agricultural columns found in newspapers were listed. Respondents were asked to indicate the most appealing column.
- (viii) **Attitude towards newspapers as sources of agricultural information:** Women farmers' attitude toward newspapers as sources of agricultural information was determined, using a Likert-type attitude scale. Attitude was assessed on a 4-point rating scale. The rating scale contained 20 items which were scored in a descending order for all positive statements as follows:

Strongly agree	= 4 points
Agree	= 3 points
Disagree	= 2 points
Strongly disagree	= 1 point

Negative statements were scored in reverse order thus:

Strongly agree	= 1 point
Agree	= 2 points
Disagree	= 3 points
Strongly disagree	= 4 points.

An overall attitude towards newspaper content was determined. Individual respondents could obtain a maximum of 80 points and a minimum of 20 points. Consequently, respondents were classified into 2 categories:

Unfavourable attitude = 20 - 50 points

Favourable attitude = 51 - 80 points

- (d) **Extension Publications:** Respondents provided information on the types of extension publications read the language of such publications and the most preferred language. In addition, they were asked to indicate the specific content of such publications.
- (i) **Forms of publications preferred:** Respondents indicated the most preferred form of extension publication (posters, fact sheets, input manual, newsletter, bulletins and leaflets.)
- (ii) **Attitude toward extension publications as sources of agricultural information:** Women farmers attitude towards extension publications as sources of agricultural information was determined using, a 4-point Likert type attitude scale. The rating scale contained 20 items which were scored in a descending order for all positive statements as follows:

Strongly agree	= 4 points
Agree	= 3 points
Disagree	= 2 points
Strongly disagree	= 1 point

Negative statements were scored in reverse order thus:

Strongly agree	= 1 point
Agree	= 2 points
Disagree	= 3 points
Strongly disagree	= 4 points

An overall attitude toward extension publications was determined. Individual respondents could obtain a maximum of 80 points and a minimum of 20 points.

Therefore, respondents were classified into 2 categories:

20 - 50 points	= unfavourable attitude
51 - 80 points	= favourable attitude

(e) **Traditional media:**

Respondents provided information on their pattern of traditional media utilization:

(i) **Listenership:** Respondents indicated whether they listen to traditional music or not.

(ii) **Folk musicians:** Respondents were asked to indicate whether they listen to the following popular folk musicians:

- (a) Alhaji (Dr) Mamman Shata
- (b) Dankwairo
- (c) Dan marayya
- (d) Sani sabulu
- (e) Kalangu/Gboje music (talking drum/local guitar)

(iii) **Preferred message content of folk music:**

Respondents were asked to indicate the type of message preferred in folk music (agriculture, health, education or entertainment)

(iv) **Preferred time:**

Respondents provided information on the time they preferred to listen to traditional music and with whom they do listen to such music.

(v) **Attitude toward traditional media as sources of agricultural information:**

Women farmers attitude towards traditional media as sources of agricultural information was determined, using a 4-point Likert-type

attitude scaled. The rating scale contained items which were scored in a descending order for all positive statements as follows:

Strongly agree	=	4 points
Agree	=	3 points
Disagree	=	2 points
Strongly disagree	=	1 point

Negative statements were scored in reverse order thus:

Strongly agree	=	1 point
Agree	=	2 points
Disagree	=	3 points
Strongly disagree	=	4 points

An overall attitude towards traditional media was determined. Individual respondents could obtain a maximum of 32 points and a minimum of 8 points. Therefore respondents were classified into 2 categories:

Unfavourable attitude	=	8 - 20 points
Favourable attitude	=	21 - 32 points

(f) Media use pattern index (MUPI)

Media use pattern Index (MUPI) was calculated, based on some of the media use related variables investigated in the study. This was obtained by summing all points obtained on media use from the following:

- (i) Participation in radio programmes
- (ii) Radio listening habit
- (iii) Radio programmes preference
- (iv) Listening to agricultural radio programmes

- (v) Attitude towards agricultural radio programmes
- (vi) Television programmes preference
- (vii) Attitude towards agricultural programmes on television
- (viii) Attitude towards newspapers as sources of agricultural information
- (ix) Attitude towards extension publications as sources of agricultural information.
- (x) Attitude towards traditional media as sources of agricultural information.

Based on this summation, the overall media use pattern index (MUPI) score was a maximum of 754 points and a minimum of 155 points. Consequently, respondents were classified into 3 categories based on the distribution as follows:

Low media use status = 155 -252 points

Moderate media use status = 253 -377 points

High media use status = 378 -754 points

4.4.7 Demographic variables.

The following demographic variables were measured:

(i) Native language:

Based on the common languages spoken in the study area, the following dialects were listed and respondents were asked which is their first language (L1):

Hausa

Fulani

Kataf

Kaje

Others

(ii) Age:

Respondents were asked to indicate their age range from the following:

Less than 25 years

26 -30 years

31 -35 years

36 -40 years

41 -45 years

46 -50 years

51 -55 years

56 years and above.

Respondents were further categorised into three age grades:

Young = Less than 40 years

Middle aged = 41 - 55 years

Elderly = 56 years and above

(iii) Marital status:

Women farmers indicated their marital status from the following categories:

Single

Married

Divorced

Widowed

(iv) Marital position:

Respondents indicated their position in their respective matrimonial homes as follow:

Only wife

First wife
 Second wife
 Third wife
 Fourth wife

(v) Educational attainment:

Respondents were asked to identify the highest educational level attained as follows:

No formal education
 Koranic education
 Primary school not completed
 Senior secondary not completed
 Senior secondary completed
 Tertiary Institution.

Educational attainment was further classified into 3 categories:

No formal education		
Koranic education	=	Low level of educational attainment.
Incomplete primary education		
Completed primary education		
Incomplete secondary education	=	Average level of educational attainment.
Completed secondary education		
Tertiary institutions and above	=	Higher level of educational attainment.

(vi) Home background:

Respondents were asked to indicate whether they were born and live in rural or urban areas.

(vii) Residence status:

Respondents indicated their residence status as follows:

Native
Non-native married to a native
Native married to a native
Non-native married to a non-native.

(viii) Religion:

Respondents indicated their religion from the following:

Islam
Christianity
Traditional
Others

(ix) Land ownership status:

Respondents indicated their land ownership status from these categories:

Own a personal land
Land tenant
Family land dependent
Husband land dependent.

(x) Major source(s) of income:

Respondents were asked to indicate which of the following is (or are) source(s) of income to them:

Crop farming
Livestock farming

Food processing
 Crop and livestock farming
 Marketing agricultural products
 Petty trading
 Goldsmithing
 Craft work
 Snack making.

(xi) Secondary source(s) of income:

Respondents were asked to indicate their secondary source(s) of income as stated below

Agricultural oriented sources

Non-agricultural sources.

(xii) Seclusion status:

Respondents were classified into two mutually exclusive categories as

In-seclusion (in Pudah)

Not in seclusion (non-Pudah)

(xiii) Farming experience:

Respondents provided information on the estimated number of years of involvement in farming.

4.5 DATA ANALYSIS

Data collected from the 120 media practitioners and 376 women farmers were organised and analysed for appropriate interpretation using both descriptive and inferential statistics.

4.5.1 Test of research hypotheses

The 11 hypotheses of the study were tested as follows:

- (i) There is no significant relationship between women farmers demographic characteristics (age, home background, educational attainment, religion, seclusion status, social participation, marital status) and their media use patterns.

Two separate statistical tools were used for this hypothesis:

Chi-square (X^2) was used to determine the relationship (contingency coefficient) that exist between identified and categorised demographic variables (age, home-background, educational attainment, religion, seclusion status, marital status and secondary occupation) and classified media use pattern.

Also, Pearson Product Moment Correlation Coefficient (r) was used to determine the relationship that exists between women's social participation and their media use pattern.

- (ii) There is no significant relationship between women farmers' information needs and agricultural tasks performed.

Pearson Product Moment Correlation Coefficient (r) was used to determine the type of relationship that exists between women farmers agricultural information needs and their agricultural tasks.

- (iii) There is no significant relationship between women farmers' information needs and their media use pattern.

Pearson Product Moment Correlation Coefficient (r) was used to determine the relationship that exists between women farmers agricultural information needs and their media use pattern.

- (iv) Agricultural information needs of rural women farmers are similar to those of urban women farmers.

The mean score of women farmers on agricultural information needs was determined for both rural and urban women farmers. T-test statistics was then used to test for differences between rural and urban women farmers agricultural information needs.

- (v) There is no significant difference between the socio-economic status of secluded and non-secluded women farmers.

The mean socio-economic status scores of secluded and non-secluded women farmers were determined and t-test statistics was used to test for differences in their socio-economic status.

- (vi) Secluded women farmers' agricultural information needs significantly differ from those of non-secluded women farmers.

The t-test statistics was used to test for differences in women farmers agricultural information needs.

- (vii) Secluded women farmers attitude towards mass media use is significantly different from that of non-secluded women farmers.

The mean score of secluded and non secluded women farmers' attitude towards the mass media was determined. T-test statistics was then used to test for differences between the secluded and non-secluded women

farmers' attitude towards the mass media (radio, television, newspapers, extension publications and traditional media).

- (viii) There is no significant difference between secluded and non-secluded women farmers media use pattern.

The mean score of secluded and non-secluded women farmers media use pattern was determined. T-test statistics was then used to test for differences between secluded and non-secluded women farmers' media use pattern.

- (ix) Electronic media practitioners' attitude towards women farmers participation in agricultural media programmes production is different from that of print media practitioners.

The mean score of print and electronic media practitioners' attitude were determined and t-test statistics was used to test for differences in their attitude towards women farmers participation in media programme production.

- (x) Media practitioners demographic characteristics are not significantly related to their attitude towards women farmers' participation in agricultural media programme production.

Two separate test statistics were used to test this hypothesis:

Chi-square (X^2) was used to determine the relationship (contingency coefficient) that exist between categorised demographic variables (age, gender, home background, religion, educational attainment, and

tenure in profession) and their attitude towards women farmers participation in agricultural media programme production.

Also, Pearson product moment correlation coefficient (r) was used to determine the extent to which media practitioners' income was related to their attitudes.

- (xi) Male media practitioners attitude towards women farmers participation in agricultural programme production is not significantly different from their female counterparts' attitude.

T-test statistics was used to test for differences in the attitude of male and female practitioners towards women farmers participation in agricultural programme production.

These hypotheses were tested at either 5 percent probability level of probability. Data analyses were done using the Statistical Analysis System (SAS) package.

CHAPTER FIVE

5.0 RESULTS AND DISCUSSIONS

The results generated in the study and their discussions are presented in this chapter. This chapter is organised into five main sections.

The first section presents background information on media practitioners. Such information include their demographic characteristics, attitude towards involving women farmers in media programme production, constraints to covering women activities and suggestions for improvement.

The second section presents background information on women farmers demographic characteristics, socio-economic status, social participation and agricultural tasks performed.

The third section provides information on women farmers' agricultural information needs. Such information needs comprised technical, marketing, social and legal types of agricultural information and sources of such information.

The fourth section presents the result of analysis of women farmers media use pattern. This covers the use of radio, television, newspapers, extension publications and traditional media.

The fifth section presents the results of the 11 hypotheses postulated in the study.

5.1 SECTION ONE

5.1.1 BACKGROUND INFORMATION ON MEDIA PRACTITIONERS

5.1.1.1. Gender:

Table 5.1 indicates that majority of media practitioners are male (75%) while only 25% are female. This shows that the profession is male dominated.

5.1.1.2. Age:

Table 5.1 shows that most of the respondents are less than 35 years old (71.1%). About 22.5% are middle aged (36-45) years old while only 5.8% are above 46 years. This implies that majority of the media practitioners are in their active years.

5.1.1.3. Education:

Over 90% of the respondents have above secondary school certificate with 40.8% having first degree (Table 5.1). About 11.7% and 5% have Higher National Diploma (HND) and Masters degree respectively. This confirms Olowu and Yahaya's (1993) findings which showed that media practitioners are adequately trained for the challenges inherent in the profession.

5.1.1.4. Place of primary assignment:

Data show that media practitioners' activities are predominantly focused on urban centres (71.7%) with only 20.8% on rural areas.

5.1.1.5. Background training:

About 51% and 42% of the practitioners have background training in agriculture and sociology/rural sociology respectively. This finding is contrary to an earlier finding that 2.9% had background training in sociology and none in agriculture (Olowu and Yahaya, 1993).

5.1.1.6. Tenure in profession:

About 39% of the respondents have been in the profession for less than 5 years while only 7.5% have been in the profession for over 21 years.

5.1.1.7 Religion:

A majority of the respondents are christians (65.8%).

5.1.2. Media practitioners attitude towards women farmers' participation in media programme production

The result of the analysis of media practitioners' attitude towards women farmers' participation in media programme production shows that the group mean (\bar{X}) for the 30 attitudinal statements contained in the Likert-type rating scale is 3.67. That is, practitioners are generally favourable towards women farmers' participation in media programme production. Indeed, this is further buttressed by the fact that of the 30 attitudinal statements only ten (33.3%) were unfavourably rated (Appendix 1).

TABLE 5.1
Demographic characteristics of media practitioners

Variable description		
Gender:	Male	90(75)*
	Female	30(25)
Age:	Young (≤ 35 years)	86(71.7)
	Middle aged (36 - 45)	27(22.5)
	Elderly (above 46 years)	7(5.8)
Religion:	Islam	41(34.2)
	Christianity	79(65.8)
Marital status	Single	33(27.5)
	Married	82(68.3)
	Divorced	4(3.3)
	Separated	1(0.8)
Educational qualification:	GCE/WASC	10(8.3)
	NCE/OND/Professional Cert.	41(34.2)
	HND	14(25.8)
	First Degree	49(40.8)
	Masters	6(5)
Annual income	Low (\leq N20,000)	76(63.3)
	Moderate N21,000 - N39,000)	31(25.8)
	High (N40,000 and above)	9(7.5)
	No response	4(3.3)
Place of primary assignment:	Rural	25(20.8)
	Urban	86(71.7)
	Rural and urban	9(7.5)
Home background:	Rural	60(50.0)
	Urban	54(45.0)
	Rural and urban	6(5.0)
Background training:	Agriculture	61(50.8)
	Sociology/Rural Sociology	50(41.7)
	Women-studies	9(7.5)
Tenure in profession	< 5 years	47(39.2)
	5 - 10 years	31(25.8)
	11 - 15 years	25(20.7)
	16 - 20 years	8(6.7)
	21 years and above	9(7.5)

* Figures in parenthesis are in percentage.

Appendix 1 indicates that media practitioners do not subscribe favourably to the idea of inviting women to participate in media programme production, neither do they support the idea of making women a major target in audience analysis. Also, they do not perceive women as a viable option for feedback to media programme producers. The statement that "evaluation of media performance should be based on the result of continuous assessment by women audiences" is not favoured by the respondents. Also, they do not subscribe to the idea of providing special columns for women farmers in newspapers. Media practitioners did not agree with the statement that religious principles affect women's participation in media programmes. In line with earlier findings, only 20% of media practitioners identified religious barriers as a major constraint to women farmers' participation in media programmes.

However, respondents favour the intensification of focus group discussion sessions in media production. Similarly, respondents agree with the statement that "media practitioners have nothing to lose when women farmers are interviewed in special media programme". Also, respondents favour live studio programmes with women farmers which will enhance the use of mass mediated channels of communication by other women audience. Similarly, practitioners agree to visiting women on their farms for media documentary programmes that will enhance their productivity.

Also, only 9.2% and 8.3% view logistic and illiteracy as other forms of constraints respectively.

In order to improve women farmers participation in media programmes, 10.8% of the media practitioners recommend encouragement of women, providing women participants with incentives and organising discussion sessions for women. In another dimension, media practitioners recommend air-time (21.2%) for electronic media and space volume (19.6%) for print media for women oriented programmes.

5.2

SECTION TWO

5.2.1 BACKGROUND INFORMATION ON WOMEN FARMERS

5.2.1.1 Demographic characteristics of women farmers

5.2.1.1.1. Age

Table 5.2 shows that a majority of the respondents (79%) are 40 years or below. However, the modal class for secluded women (25.9%) is 26-30 years while the modal class for non-secluded women is 36-40 years (27.9%). Imam (1992), in a study of women and the mass media in Kano State reported that 53.3% of secluded women were 35-44 years and 46.7% of the non-secluded women in the same age bracket. In essence secluded women and non-secluded women farmers are different in age.

TABLE 5.2

Demographic characteristics of secluded and non-secluded women farmers

Name of variable	All respondents (n = 376)		Secluded women (n = 143)		Non-secluded women (n = 233)	
	Freq.	%	Freq.	%	Freq.	%
Age: < 25 years	45	11.9	19	13.3	26	11.6
26 - 30 years	79	21.0	37	25.9	42	18.3
31 - 35 years	77	20.5	34	23.8	33	14.2
36 - 40 years	96	25.5	31	21.7	65	27.9
41 - 45 years	48	12.8	12	8.4	36	15.5
46 - 50 years	24	6.4	7	4.9	17	7.3
51 - 55 years	13	3.5	3	2.1	10	4.3
56 and above	4	1.1	0	0	4	1.7
Marital status:						
Married (polygamous)	116	30.9	356	39.2	60	25.8
Married (monogamous)	191	50.8	61	42.7	130	55.8
Single	27	7.2	9	6.3	18	7.7
Divorced	3	0.8	1	0.7	2	0.9
Widowed	39	10.4	16	11.2	3	9.9
Home background:						
Rural	326	86.7	111	77.9	201	86.3
Urban	50	13.3	32	22.4	32	13.7
Educational attainment:						
No formal education	88	23.4	50	27.9	48	20.6
Koranic education	113	30.1	61	42.7	52	23.3
Incomplete primary	40	10.6	11	7.7	29	12.5
Complete primary	57	15.2	15	10.5	42	18.0
Incomplete secondary	20	5.3	3	2.1	17	7.3
Complete secondary	34	9.0	9	6.3	25	10.7
Tertiary	14	3.7	1	0.7	13	5.6
Others	10	2.7	3	2.1	7	3.0
Religion:						
Islam	59	68.8	143	100	116	49.8
Christianity	101	27.0	-	-	105	43.4
Traditional	5	1.3	-	-	5	2.1
Others	11	2.9	-	-	11	4.7
Land ownership status:						
Personal land	94	25.0	35	24.5	59	25.3
Family land	78	20.8	21	14.7	57	24.5
Husband land	114	30.3	47	32.9	67	28.8
Land tenant	90	23.9	40	28.0	50	21.4
Secondary sources of income						
Livestock rearing	60	15.9	26	18.1	34	14.6
Foodcrop processing	92	24.5	36	25.2	56	24.0
Marketing agric produce	51	13.6	13	9.1		

Petty trading	45	11.9	16	11.2	29	12.5
Crafts	90	23.	39	27.3	51	21.9
Snacks making	70	18.6	27	18.9	43	18.5

5.2.1.1.2 Marital status

Most of the women farmers (81.7%) are married. However, more of the secluded women (39.2%) are polygamous than non-secluded (25.8%).

5.2.1.1.3 Education

About 36% of women farmers have completed primary to tertiary education but a higher proportion (44.7%) of non-secluded women and a lower proportion (21.7%) of secluded women have same qualification.

In the corollary, while 30% of the respondents have koranic education, a higher percentage (42.7%) of secluded women and a lower percentage (22.3%) of non-secluded women have this form of education. However, while 23.4 % have no formal education, more secluded women (27.9%) belong to this category compared to 20.6% of non-secluded women. Therefore, Soola's (1985) recommendation for effective communication with non-literate farmers requires urgent attention.

5.2.1.1.4 Home background

Table 5.2 indicates that a majority of the women farmers (86.7%) are from rural areas but a higher proportion (86.3%) of non- secluded women and a lower percentage (77.6%) of secluded women are from the same background.

5.2.1.1.5 Religion:

A majority of the respondents (68.8%) are Muslims with Christians constituting 27% only. An earlier study in the southern Kaduna State reported by Olayiwole, (1984) showed no difference in the number of Muslims and non-Muslims.

5.2.1.1.6 Land ownership status

Table 5.2 shows that most of the women (30.3%) have land owned by their husbands. This trend is similar for secluded (32.9%) and non-secluded women (28.8%) though this pattern is more dominant for secluded women ($X^2 = 6.37; p < .05$).

5.2.1.1.7 Secondary source of income

Table 5.3 indicates that the major secondary source of income is food crop processing (24.5%). While this is the same pattern for non-secluded women (24%), secluded women's major source of secondary income is crafts (27%). This finding, even though of lower magnitude, is consistent with the literature that women are involved in diverse income generation activities (Boserup, 1970; Olayiwole, 1984, Adams, 1990 and Imam, 1992).

5.2.2. SOCIO-ECONOMIC STATUS (SES) OF WOMEN FARMERS IN NORTH CENTRAL NIGERIA

Several indicators were used in this study to determine the socio-economic status of women farmers. Highlights of the findings are summarised in Tables 5.3; 5.4; 5.5; 5.6; 5.7 and 5.8.

5.2.2.1 Farm size

Table 5.3 indicates that most of the women farmers (58.5%) possess farms smaller than 5 hectares, though more secluded women (69.2%) belong to this category compared to only 51.9% of non-secluded women.

5.2.2.2. Crop production:

Table 5.3 shows that women farmers are predominantly involved in cereals (95.2%) and legumes (84.4%). To a lesser extent, they cultivate root crops (46.3%) and vegetables (12.3%).

5.2.2.2.1 Cereals:

As shown on Table 5.3, more secluded women (96.5%) are involved in cereals production than non-secluded women farmers (94.4%) though majority of the women cultivate less than 5 hectares (44.7%).

5.2.2.2.2 Root crops:

A higher proportion of non-secluded women (48.1%) are involved in root crop production than secluded women farmers (43.9%). However, a majority of the women cultivate less than 5 hectares (34.3%).

5.2.2.2.3 Legumes:

Table 5.3 shows a similar trend between secluded and non-secluded women farmers involved in legumes production (83.2% and 84.6% respectively). However, majority of the women devote less than 5 hectares (69.2%) to the crop. This trend is similar for both secluded and non-secluded women.

TABLE 5.3
Distribution of respondents farm sizes

	All respondents (n = 376)				Secluded (n = 143)				Non-Secluded (n = 233)			
	< 5ha.	610ha.	> 10ha	None	< 5ha	610ha.	> 10ha.	None	< 5ha.	610ha.	> 10ha.	None
Farm size	220(58.5)*	80(21.3)	76(20.2)	-	99(69.2)	28(19.6)	16(11.3)	-	121(51.9)	52(22.3)	60(25.8)	-
Cereal crops	168(44.7)	97(25.8)	93(24.7)	18(4.8)	77(53.9)	30(20.7)	31(21.7)	5(3.5)	91(39.1)	67(28.8)	62(26.6)	13(5.6)
Root crops	129(34.3)	20(5.3)	25(6.7)	202(53.7)	49(3.15)	12(8.4)	1(0.7)	81(56.1)	80(34.3)	8(3.4)	24(10.3)	121(51.9)
Vegetables	43(11.4)	1(0.3)	2(0.5)	330(87.8)	14(9.8)	0(0.0)	0(0.0)	129(90.2)	29(12.5)	1(0.4)	2(0.9)	201(86.2)
Legumes	260(69.2)	34(9.0)	22(5.9)	60(15.9)	104(72.7)	9(6.3)	6(4.2)	24(16.3)	156(66.9)	25(10.7)	16(6.9)	36(15.5)

*Figures in parenthesis are in percentage

5.2.2.2.4 Vegetables:

A lower proportion of both secluded (9.8%) and non-secluded (13.7%) women farmers are involved in vegetable production.

5.2.2.3 Livestock production:

Women farmers generally keep cattle (29.8%), goats (84.3%), sheep (61.9%), poultry (82.2%), pig (20.2%) and camel (6.1%).

5.2.2.3.1 Cattle:

Table 5.4 shows that some of the women (18.4%) have between 1-5 heads of cattle. This trend is similar for both secluded (24.5%) and non-secluded (14.5%) women farmers.

5.2.2.3.2 Goats:

About 62% of women farmers keep between 1-10 goats but a higher proportion (66.5%) of non-secluded women and a lower proportion (56%) of secluded women have same number.

5.2.2.3.3 Sheep:

A majority of women (29.8%) keep between 1-5 heads of sheep. This trend is similar for secluded (29.4%) and non-secluded (30.1%) women farmers.

5.2.2.3.4 Poultry:

Women generally keep above 10 poultry animals (49.2%). However, higher proportion of non-secluded women (57.9%) and lower proportion of secluded women (34.9%) rear the same number.

5.2.2.3.5 Camel:

A small percentage of women 2.6% keep 1-2 camels while only 3.96% and 0.7% of non-secluded and secluded women keep the same number respectively.

5.2.2.3.6 Pigs:

Women generally keep between 1-5 heads of pig (15.4%). However, higher proportion of non-secluded women (23.2%) and a lower proportion of secluded women (2.8%) keep the same number. This variation may be explained by the tenets of Islamic religion which forbid pork consumption among muslims.

5.2.2.4 Possession of household items:

In northern Nigeria, possession of certain basic items, both in quality and quantity, are manifestations of one's socio-economic status.

TABLE 5.4
Distribution of respondents according to their livestock holding

Type of Animals	All respondents (n = 376)				Secluded (n = 143)				Non-Secluded (n = 233)			
	1-5	6-10	>10	None	1-5	6-10	>10	None	1-5	6-10	>10	None
Cattle	69(18.4)*	23(6.1)	112(5.3)	264(70.2)	35(24.5)	15(10.5)	3(2.1)	90(62.9)	34(14.6)	8(3.4)	17(7.3)	174(74.7)
Goat	146(309)	119(31.7)	82(21.8)	59(15.7)	34(23.8)	46(32.2)	30(21.0)	33(23.1)	82(35.2)	73(31.3)	52(22.3)	26(11.2)
Sheep	112(29.8)	67(17.8)	54(14.4)	143(38.0)	42(29.4)	33(23.1)	23(16.1)	45(31.5)	70(30.0)	34(14.6)	31(13.3)	98(42.1)
Poultry	35(9.3)	89(23.7)	185(49.2)	67(17.8)	23(16.1)	38(26.6)	50(35.0)	32(22.4)	12(5.2)	15(21.9)	135(58.0)	35(15.0)
Camel	10(2.7)	5(1.3)	8(2.1)	353(93.9)	1(0.7)	2(0.5)	1(0.7)	139(97.2)	9(3.9)	3(1.3)	7(3.0)	214(91.9)
Pig	58(15.4)	9(2.4)	9(2.4)	300(79.8)	4(2.8)	0(0.0)	2(1.4)	137(95.8)	54(23.1)	9(3.9)	7(3.0)	163(70.1)

*Figures in parenthesis are in percentage

TABLE 5.5
Distribution of respondents according to their house types

Type of Houses	All respondents (n = 376)				Secluded (n = 143)				Non-Secluded (n = 233)			
	1-2	3-4	≥5	None	1-2	3-4	≥5	None	1-2	3-4	≥5	None
Plastered and												
Painted houses	46(12.2)*	9(2.4)	10(2.7)	311(82.7)	12(8.4)	2(1.4)	2(1.4)	127(88.8)	34(14.6)	7(3.0)	8(3.4)	184(78.9)
Mud houses	108(28.7)	44(11.7)	16(4.3)	208(55.3)	44(30.8)	13(9.1)	7(4.9)	79(55.2)	64(27.5)	31(13.3)	9(3.9)	129(55.4)
Furniture Types												
Foam cushion set	14(3.7)	40(10.6)	64(17.0)	258(68.6)	3(2.1)	7(4.9)	13(9.1)	120(83.9)	11(4.7)	33(14.2)	51(21.9)	138(59.2)
Wooden chairs	51(13.6)	61(16.2)	23(6.1)	241(64.1)	26(18.2)	29(20.3)	13(9.1)	75(52.5)	25(10.7)	32(13.7)	10(4.3)	166(71.2)

*Figures in parenthesis are in percentage.

5.2.2.4.1 House types:

Table 5.5. shows that a small percentage of women farmers (17.3%) possess plastered and painted houses. The commonest house type among respondents is mud houses (44.7%). A higher proportion of non-secluded women (21%) possess between 1-5 plastered painted houses than secluded women (11.2%). But both secluded and non- secluded women possess a similar number of mud houses (44.8% and 44.6% respectively).

5.2.2.4.2 Furniture types:

Table 5.5. reveals that 30.4% of women possess foam cushion sets but a higher proportion (41.8%) of non-secluded women and a lower proportion of secluded women (16.1%) possess the same furniture type. Also, 55.9% of the women have wooden chairs. However, a higher percentage of secluded women farmers (47.5%) and 28.8% of non-secluded women possess the same furniture type.

5.2.2.4.3 Bedroom items:

From Table 5.6 it is seen that the commonest bedroom item among women, is floor mat (48.4%). Though a higher proportion of secluded women (55.2%) and a lower proportion of non-secluded women (44.2%) possess the same item. However, spring iron bed is the commonest bed type to a majority of women farmers (49.2%). Also a number of women possess modern bed sets (28.2%) and large family beds (26.3%). This trend of possession of iron bed is common to both secluded and non-secluded women (52.4% and 47.2% respectively).

TABLE 5.6
Distribution of respondents according to possession of selected bedroom items

Types of Items	All correspondent (n=376)		Secluded (n=143)		Non-Secluded (n=233)	
	Possessed	None	Possessed	None	Possessed	None
Carpet	61(16.2)*	315(83.8)	23(16.1)	120(83.9)	38(16.3)	195(83.7)
Floor mat	182(48.4)	194(51.6)	79(55.2)	64(44.8)	103(44.2)	130(55.8)
Bed sets	106(28.2)	270(71.8)	31(21.7)	112(78.3)	75(32.2)	158(67.8)
Large family bed	99(26.3)	277(73.7)	26(18.2)	117(81.8)	73(31.3)	160(68.7)
Spring Iron bed	185(49.2)	191(50.8)	76(52.4)	68(47.5)	110(47.2)	123(52.8)

*Figures in parenthesis are in percentage.

5.2.2.4.4 Sitting-room interior decorations:

Table 5.7 shows that breakable plates are commonly possessed by a majority of women (48.2 %) compared to only 39.7% and 29% of those who possess aluminium and stainless plates respectively. Similarly, both secluded and non secluded women possess less than 15 alluminium plates (34.9% and 35% respectively). But a higher proportion of non-secluded women (28.3%) and lower proportion (19.6%) of secluded women possess less than 15 alluminium plates. This same pattern is observed in the possession of the same number of breakable plates for both secluded women (28.7%) and non-secluded women (29.6%).

Table 5.7 further reveals that a majority of women (41.5%) possess metal boxes while 39.9% possess wooden boxes. However, secluded women (30.7%) and 33.9% of non-secluded women possess 1- 2 metal box types but higher proportion of secluded women (34.3%) and lower proportion of non-secluded women (31.8%) possess 1-2 wooden boxes.

TABLE 5.7
Distribution of respondents according sitting room decorations

Type of Items	All respondents (n = 376)				Secluded (n = 143)				Non-Secluded (n = 233)			
	≤ 15	16-20	≥ 21	None	≤ 15	16-20	≥ 21	None	≤ 15	16-20	≥ 21	None
Stainless plates	94(25.0)*	3(0.8)	12(3.2)	267(71.0)	28(19.6)	1(0.7)	4(2.8)	110(76.9)	66(28.3)	2(0.9)	8(3.4)	157(67.4)
Breakable plates	110(29.3)	18(4.8)	53(14.1)	195(51.8)	41(28.7)	6(4.2)	8(5.6)	88(61.5)	69(29.6)	12(5.2)	45(19.3)	107(45.9)
Aluminium plates	132(35.1)	10(2.7)	7(1.9)	227(60.3)	50(34.9)	4(2.8)	5(3.5)	84(58.7)	82(35.2)	6(2.6)	2(0.9)	143(61.4)
Meal spoons	182(48.4)	27(7.2)	23(6.1)	144(38.3)	87(60.8)	2(1.4)	5(3.5)	49(34.3)	95(40.8)	25(10.7)	18(7.7)	95(40.7)
Echolac cloth box	71(18.9)	10(2.7)	5(1.3)	290(77.1)	22(15.4)	3(2.1)	3(2.1)	115(80.4)	49(21.0)	7(3.0)	2(0.9)	175(75.1)
Portmanteau box	81(21.5)	10(2.7)	3(0.8)	282(75.0)	27(18.9)	4(2.8)	1(0.7)	171(73.4)	54(23.2)	6(2.5)	2(2.9)	171(73.0)
Metal box	123(32.7)	30(8.0)	3(0.8)	220(58.5)	44(30.8)	12(8.4)	2(1.4)	85(59.4)	79(33.9)	18(7.7)	1(0.4)	134(57.9)
Wooden box	123(32.7)	25(6.7)	2(0.5)	226(60.1)	49(34.3)	14(9.8)	2(1.4)	78(54.5)	74(31.8)	11(4.7)	0(0.0)	148(63.5)

*Figures in parenthesis are in percentage.



Plate 5.1: Interior decoration of a secluded woman farmer showing plates and other socio-economic indicators in Funtua, Katsina State.

5.2.2.4.5 Jewelry:

Included in Table 5.8 is the distribution of jewelry types possessed by women farmers. It reveals that only 13% of respondents possess 1-2 gold plated wrist watches compared to 34.5% that possess the ordinary type. However, a higher percentage of non-secluded women farmers (14.6%) possess the same quantity of gold plated wrist watch than their secluded counterparts (11.2%). Also, 17.8% and 17% possess gold plated necklace and earrings respectively. Similarly, there is no variation between the sub-groups in terms of their possession of these items (Table 5.8)

Table 5.8 indicates further that only 12.5% and 37.2% of the entire sample possess 1-2 gold plated and ordinary finger rings respectively with more non-secluded women (15.1%) possessing 1-2 gold plated finger ring than their secluded counterparts (7.7%). But the secluded women possess a little more of ordinary finger ring (37.8%) than their non-secluded counterparts (36.9%).

5.2.2.5 Social participation:

Table 5.9 shows that women farmers do regularly participate in religious (40.7%) adashi (35.9%) and women cooperatives (30.3%) activities. To a lesser extent women participate in farmers' union (21.5%), radio listeners club (25.3%) and radio greeting clubs (25.3%). However, both secluded and non-secluded women farmers are quite similar in the level of participation

TABLE 5.8
Distribution of women farmers according to their possession of jewelries as
socio-economic status indicator

Jewelry type and quality	All respondents (n = 376)				Secluded (n = 143)				Non-Secluded (n = 233)			
	1-2	3-4	≥ 5	None	1-2	3-4	≥ 5	None	1-2	3-4	≥ 5	None
Gold plated wrist watch	320(85.1)*	49(13.0)	6(1.7)	1(0.3)	126(88.1)	16(11.2)	0(0.0)	1(0.7)	194(83.2)	33(14.6)	6(2.6)	0(0.0)
Gold plated necklace	292(77.7)	67(17.8)	13(3.5)	4(2.4)	116(81.1)	23(16.1)	0(0.0)	4(2.8)	176(75.5)	44(18.9)	13(5.8)	0(0.0)
Gold plated earring	283(75.3)	64(17.0)	20(5.3)	9(2.4)	105(73.4)	23(16.1)	11(7.7)	4(2.8)	178(76.4)	41(17.1)	9(3.9)	5(2.2)
Gold plated bracelet	359(95.5)	8(2.1)	9(2.4)	0(0.0)	137(95.8)	2(1.4)	4(2.8)	0(0.0)	222(95.3)	6(2.6)	5(2.2)	0(0.0)
Gold plated finger ring	327(86.9)	47(12.5)	2(.5)	0(0.0)	132(92.3)	11(7.7)	0(0.0)	0(0.0)	195(83.7)	36(15.5)	2(0.9)	0(0.0)
Ordinary wristwatch	227(60.4)	130(34.6)	17(4.5)	2(0.5)	96(67.1)	34(23.8)	11(7.7)	2(1.4)	131(56.2)	96(41.2)	6(2.6)	0(0.0)
Ordinary necklace	161(42.8)	159(42.3)	45(11.9)	11(2.9)	65(45.5)	51(35.7)	22(15.4)	5(3.5)	96(41.2)	108(46.4)	23(9.9)	6(2.6)
Ordinary earring	152(40.4)	113(30.1)	82(21.8)	29(7.7)	57(39.8)	46(32.2)	28(19.6)	12(8.9)	95(40.8)	67(28.8)	54(23.2)	17(7.3)
Ordinary bracelet	297(78.9)	49(13.0)	14(3.72)	16(4.3)	112(78.3)	24(16.8)	4(2.8)	3(2.1)	185(79.4)	25(10.7)	10(4.3)	13(5.6)
Ordinary finger ring	223(59.3)	40(37.2)	8(2.3)	5(1.3)	84(58.7)	54(37.8)	3(2.1)	2(1.4)	139(59.7)	86(39.9)	5(2.2)	3(1.3)

*Figures in parenthesis are in percentage.



Plate 5.2: Researcher with research assistant in group photograph among non-secluded women farmers' cooperative group in Rimaye Village, Katsina State.



Plate 5.3: A woman harvesting rice together with her husband in Birnin-Gwari, Kaduna State.



Plate 5.4: A woman farmer busy weeding her sorghum/beans plot in Safana village, Katsina State.

TABLE 5.9
Distribution of respondents according to their social participation

Association type	All respondents (n = 376)			Secluded (n = 143)			Non-secluded (n = 233)		
	Regular	Occasional	Never	Regular	Occasional	Never	Regular	Occasional	Never
Religious	154(40.7)	41(10.9)	182(48.4)	57(39.9)	9(6.3)	77(53.9)	96(41.2)	32(13.7)	105(45.1)
Farmers union	81(21.5)	56(14.9)	239(63.6)	31(21.7)	30(21.0)	82(57.4)	50(21.5)	26(11.1)	157(67.4)
Village council	23(6.1)	37(9.8)	316(84.0)	12(8.4)	9(6.3)	122(85.3)	11(4.7)	28(12.0)	194(83.3)
Adashi group	135(35.9)	72(19.2)	169(44.9)	51(35.6)	36(25.2)	56(39.2)	84(36.0)	36(15.5)	113(48.5)
Women cooperatives	114(30.3)	63(16.8)	199(52.9)	40(28.0)	19(13.3)	84(58.8)	74(31.8)	44(18.9)	115(49.3)
Market women association	45(12.0)	26(6.9)	305(81.1)	18(12.6)	7(4.9)	118(82.5)	27(11.6)	19(8.2)	187(80.2)
Radio listener's club	95(25.3)	31(8.2)	250(66.5)	43(30.1)	15(10.5)	85(59.4)	52(22.3)	16(6.9)	165(70.8)
Radio greetings club	95(25.3)	31(8.2)	250(66.5)	43(30.1)	15(10.5)	85(59.4)	52(22.3)	16(6.9)	165(70.8)
TV greetings request club	16(4.2)	30(8.0)	330(87.8)	11(7.7)	9(6.3)	23(6.0)	5(2.2)	21(9.0)	207(88.8)

*Figures in parenthesis are in percentage

in various group activities (Table 5.9).

These findings suggests that extension services targeted to women in these sub-groups is likely to achieve set goals because of the advantages associated with group dynamics. This will not only ensure effectiveness but also minimise cost.

5.2.3 AGRICULTURAL TASKS PERFORMED BY WOMEN FARMERS

Respondents indicated their degree of involvement in various agricultural tasks. Table 5.10 shows that women farmers generally are highly involved in planting (76.9%), land clearing (72%), fertilizer application (68.1%), harvesting (67.3%), weeding (65.2%) and thinning (63.8%). To a lesser extent, they are involved in ridge making (61.5%), storage (60.6%), processing (52%) and marketing (47.4%). Plates 5.3, 5.4 and 5.6 and 5.7 show women actually involved in some of these activities.

More of non-secluded women are highly involved in planting (85%) than secluded women (63.7%). Similarly, a higher percentage of non- secluded women are involved in land clearing (80.3%), fertilizer application (77.7%) and harvesting (75.1%) compared to their secluded counterparts who are more involved in storage (60.8%), land clearing (58.8%) and ridge making (56.7%).

TABLE 5.10
Distribution of respondents according to tasks performed

Task	All respondents (n = 376)					Secluded women (n = 143)					Non-secluded women (n = 233)				
	V. High	High	Low	V. Low	None	V. High	High	Low	V. Low	None	V. High	High	Low	V. Low	None
Land clearing	146(3.8)*	125(33.2)	15(4.0)	10(2.7)	95(25.3)	47(32.9)	37(25.9)	8(5.6)	5(3.5)	46(32.9)	99(42.5)	88(37.8)	7(3.0)	5(2.1)	34(14.6)
Ridge making	112(29.8)	119(31.7)	29(7.7)	15(4.0)	101(26.9)	46(32.1)	35(24.5)	6(4.2)	6(4.2)	50(35.0)	66(28.3)	84(36.0)	23(9.9)	9(3.2)	51(21.9)
Planting	189(50.5)	100(26.6)	10(2.7)	6(1.6)	71(18.9)	59(41.3)	32(22.4)	5(3.5)	2(1.4)	45(31.5)	130(55.8)	68(29.2)	5(2.2)	4(1.7)	26(11.2)
Thinning	105(27.9)	135(35.9)	25(6.7)	5(1.3)	106(28.2)	44(30.8)	34(23.8)	12(8.4)	2(1.4)	51(35.6)	61(26.2)	101(43.3)	25(10.7)	5(2.2)	41(17.6)
Fertilizer application	137(36.4)	119(31.6)	43(11.4)	7(1.9)	70(18.6)	53(37.0)	22(15.4)	21(14.7)	3(2.1)	44(30.8)	84(36.1)	97(41.6)	22(9.4)	4(1.7)	26(11.2)
Weeding	116(30.9)	129(34.3)	33(8.8)	13(3.5)	85(22.6)	41(28.7)	35(24.5)	12(8.4)	5(3.4)	50(35.3)	75(32.2)	94(40.3)	21(9.0)	8(3.4)	35(15.0)
Harvesting	149(39.6)	104(27.7)	25(6.6)	12(3.2)	86(22.4)	47(32.9)	31(21.7)	13(9.1)	6(4.2)	46(32.1)	102(43.8)	73(31.3)	12(5.2)	6(2.6)	40(17.1)
Storage	131(34.8)	97(25.8)	52(13.8)	8(2.1)	88(23.4)	60(42.0)	27(18.9)	9(6.30)	4(2.8)	43(30.0)	71(30.5)	70(30.0)	43(18.4)	4(1.7)	45(19.3)
Processing	97(25.8)	99(26.3)	64(17.0)	12(3.2)	104(27.7)	39(27.3)	31(21.7)	21(14.7)	6(4.2)	43(30.0)	59(24.9)	58(24.9)	43(18.5)	6(2.6)	58(24.9)
Marketing and distribution	68(18.1)	110(29.3)	72(19.1)	16(4.3)	110(29.3)	31(21.7)	28(19.6)	20(14.0)	11(7.7)	53(37.1)	37(15.9)	87(37.3)	52(22.3)	5(2.1)	57(24.5)

*Figures in parenthesis are percentages.

TABLE 5.11
Distribution of respondents according to sources of farm labour on farm operation

Sources of assistance		All respondents Freq.	%	Secluded		Non-secluded	
				Freq.	%	Freq.	%
Husband:	Yes	145	38.6	52	36.4	93	39.9
	No	231	61.4	91	63.6	140	60.1
Children:	Yes	221	58.8	76	53.2	145	62.2
	No	155	41.2	67	46.8	88	37.8
Relatives:	Yes	51	13.6	23	16.1	18	7.7
	No	325	86.4	120	83.9	215	92.3
Hired Labourers							
(Adult):	Yes	12	3.2	0	0.0	122	52.4
	No	364	96.8	143	100.0	111	47.6
Hired labourers							
(Youth):	Yes	299	79.5	126	88.1	170	72.9
	No	77	20.5	17	11.9	63	27.0
Husband/children							
and labourers:	Yes	12	3.2	0	0.0	11	4.7
	No	364	96.8	143	100.0	222	95.3

TABLE 5.12
Distribution of respondents according to their technical information needs

Information type	All respondents (n = 376)					Secluded (n = 143)					Non-secluded (n=233)				
	None	Very low	Moderate	High	Very High	None	Very low	Moderate	High	Very High	None	Very low	Moderate	High	Very High
Weather forecast	88(23.4)*	2(0.5)	112(29.8)	92(24.5)P	82(21.8)	44(30.8)	1(0.7)	38(26.6)	31(21.7)	29(20.3)	44(18.9)	1(0.4)	75(31.8)	61(26.2)	53(22.7)
Soil Management	59(15.7)	5(1.3)	88(23.4)	124(33.0)	100(26.6)	33(23.1)	1(0.7)	27(18.9)	45(31.5)	37(25.9)	26(11.2)	4(1.7)	61(26.2)	79(33.9)	63(27.0)
Cropping system	65(17.3)	8(2.1)	79(21.0)	148(39.4)	76(20.2)	30(21.0)	4(2.8)	27(18.9)	51(25.6)	31(21.7)	35(15.0)	4(1.7)	52(22.3)	97(41.6)	45(19.3)
Disease/pest control	54(14.4)	10(2.7)	67(17.8)	114(30.3)	13(34.8)	24(16.8)	0(0.0)	23(16.1)	41(28.7)	55(38.4)	30(12.9)	10(4.3)	44(18.9)	73(31.3)	76(32.6)
Food processing	69(18.4)	3(0.8)	88(23.4)	136(36.2)	80(21.3)	39(27.3)	2(1.4)	31(21.7)	36(25.1)	35(24.5)	30(12.9)	1(0.4)	57(24.5)	100(42.9)	45(19.3)
Crop storage	63(16.8)	1(0.3)	89(23.7)	102(27.1)	*121(32.2)	30(21.0)	0(0.0)	27(18.9)	29(20.3)	57(39.8)	33(14.2)	1(0.4)	62(26.6)	73(31.3)	64(27.5)
Livestock feed formulation	76(20.2)	10(2.7)	111(29.6)	105(27.9)	74(19.7)	38(36.6)	4(2.8)	38(28.6)	25(27.5)	38(26.6)	38(16.3)	6(2.6)	73(31.3)	80(34.3)	36(15.4)
Livestock drug administration	86(22.9)	12(3.2)	82(21.8)	28(34.0)	68(18.1)	39(27.3)	0(0.0)	23(23.1)	31(21.7)	40(28.0)	42(20.2)	12(5.2)	49(21.0)	97(41.6)	28(12.0)
Processing animal by-products	111(29.5)	32(8.5)	109(29.0)	85(22.6)	39(10.4)	51(35.7)	11(7.7)	27(18.9)	31(21.7)	23(16.1)	60(25.8)	21(9.0)	82(35.2)	54(25.2)	16(6.9)
Operation of farm machineries	136(36.2)	36(9.6)	90(23.9)	74(19.7)	40(10.6)	62(43.4)	12(8.4)	28(19.6)	24(16.8)	17(11.9)	74(31.8)	24(10.3)	62(26.6)	50(21.5)	23(9.9)

*Figures in parenthesis are percentages.

These findings reveal that women farmers actively participate in various farm operations. Similar findings were reported by Olayiwole (1984).

5.2.4 Source of farm Labour:

Table 5.11 shows that the major sources of farm labour to women farmers is hired youth labourers (79.5%). Farmers' children are rated equally high (58.8%) as a major source of labour for the execution of farm operations. Generally, children constitute a higher source of labour to non-secluded women (62.2%) than to the secluded women (53.2%). But none of the secluded women patronise hired adult labourers as against (52.4%) of non-secluded women farmers. This development may be explained by the Islamic injunction which forbids free interaction between adult males and married woman. This may also be responsible for higher incidence of secluded women farmers patronage of youths as a source of hired labour (88.1%). For example, Plate 5.5 shows a number of adult women hired labourers working on a rice farm.



Plate 5.5: Adult women hired labourers threshing rice in BirninGwari, Kaduna State.

5.3**SECTION THREE****5.3.1****AGRICULTURAL INFORMATION NEEDS****5.3.1.1 Technical Information needs:**

The agricultural information need index (Table 5.12) show that the most critically needed technical information to respondents is related to disease/pest control (65.1%). Respondents also rated cropping system (59.6%), crop storage (59.3%) and soil management (59.6%) as some of the highly needed forms of technical information. In terms of sub-groups, secluded women show higher technical information needs for disease/pest control (67.2%) and crop storage (60.2%) than their non-secluded counterparts (63.9% and 57.8% respectively).

The plausible explanation for this variation in the information needs of secluded and non-secluded women farmers may be attributed to differences in farm activities carried out by women farmers. As shown on Table 5.10, the degree of involvement of secluded and non-secluded women farmers in various farm operations vary. Non-secluded women are involved more in farm operations than secluded women. Also they have greater information needs than secluded women. Hence, it appears that the more task women are involved in, the more the information need. However, women farmers did not indicate any need for information as regards operations of farm machineries. Indeed, Plate 5.6 shows that women farmers depend more on the traditional hoe.



Plate 5.6: A secluded woman farmer weeding her farm plot in Ajiwa, Katsina State.

TABLE 5.13
Distribution of respondents according to their marketing information needs

Information type	All respondents (n = 376)					Secluded (n = 143)					Non-secluded (n=233)				
	None	Very low	Moderate	High	Very High	None	Very low	Moderate	High	Very High	None	Very low	Moderate	High	Very High
Current market prices	57(15.2)*	6(1.6)	100(26.6)	109(29.0)	104(27.7)	36(25.5)	0(0.0)	28(19.6)	47(32.9)	32(22.4)	21(9.0)	6(2.6)	72(30.9)	62(30.9)	72(30.9)
Future market prices	67(17.8)	9(2.4)	152(40.4)	80(21.3)	58(18.1)	34(23.8)	1(0.7)	48(33.6)	38(26.6)	22(15.4)	38(14.2)	8(3.4)	104(44.6)	42(18.0)	46(19.7)
Market location	76(20.2)	7(1.9)	159(42.3)	88(23.4)	46(12.2)	44(30.8)	1(0.7)	43(30.1)	35(24.5)	20(14.0)	32(13.7)	6(2.6)	116(49.8)	53(22.8)	26(11.1)
Budgeting method	70(18.6)	11(2.9)	162(43.1)	103(27.4)	30(8.0)	41(28.7)	2(1.4)	49(34.3)	40(28.0)	11(7.7)	29(12.4)	9(3.9)	113(48.5)	63(27.0)	9(8.2)
Credit Sources	88(22.1)	57(15.2)	96(25.5)	95(25.3)	45(12.0)	47(32.9)	23(16.1)	25(17.5)	27(18.9)	21(14.7)	36(15.4)	34(14.6)	71(30.5)	68(29.2)	24(10.3)
Credit procurement procedure	97(25.8)	43(11.4)	109(29.0)	67(17.8)	60(16.0)	52(36.4)	17(11.9)	33(23.1)	21(14.7)	20(14.0)	45(19.3)	26(11.2)	76(32.6)	46(19.7)	40(17.2)
Credit management	101(26.9)	22(5.9)	22(32.4)	80(21.3)	51(13.6)	54(37.7)	4(2.8)	42(29.4)	28(19.6)	15(10.5)	47(20.2)	18(7.7)	80(34.3)	52(22.3)	36(15.5)
Selling beyond farm gate (advantages)	94(25.0)	17(4.5)	148(39.4)	86(22.9)	31(8.2)	52(36.4)	8(5.6)	48(33.6)	24(16.8)	11(7.7)	42(18.0)	9(3.9)	100(43.0)	62(26.6)	90(8.6)
Production timing	77(20.5)	12(3.2)	163(43.4)	90(24.0)	34(9.0)	41(28.7)	3(2.1)	55(38.5)	29(20.3)	29(20.3)	36(5.4)	9(3.9)	108(46.4)	61(26.2)	19(8.1)
Produce substitution management	80(21.3)	15(4.0)	155(41.2)	94(25.0)	32(8.5)	44(30.8)	6(4.2)	42(29.4)	44(30.8)	44(30.8)	36(15.4)	9(3.9)	113(48.5)	50(21.5)	25(10.7)

*Figures in parenthesis are percentages.

5.3.1.2 Marketing information needs

Table 5.13 shows that marketing information is not highly needed by a majority of the respondents. For example, market location, budgeting method, production timing and produce substitution are moderately needed by 42.3%, 43.1%, 43.4% and 41.2% of respondents respectively.

These findings suggest that marketing of agricultural produce may pose no serious problem to women farmers. However, current market prices (56.7%) and future market prices (39.4%) are the two major marketing areas that farmers need more information. This trend is similar among both secluded and non-secluded women farmers (Table 5.14). This finding is consistent with earlier findings (Fett *et al* 1974) that farmers lack this information in some developing countries.

5.3.1.3 Social information needs

Only information related to agricultural programme on the mass media is highly needed by most of the respondents (56.1%). This trends is similar for secluded (54.6%) and non-secluded women (57.1%). Other forms of social information needs are rather moderately needed by women farmers (Table 5.14). However, these findings reveal the significance of mass media in agricultural information dissemination. That is, women's exposure to mass media could motivate their search for needed information. Thus,



Plate 5.7: Women actively involved in marketing transaction at the popular Makarfi market near Zaria, Kaduna State.

TABLE 5.14
Distribution of respondents according to their social information needs

Information type	All respondents (n = 376)					Secluded (n = 143)					Non-secluded (n=233)				
	None	Very low	Moderate	High	Very High	None	Very low	Moderate	High	Very High	None	Very low	Moderate	High	Very High
Cooperative association	82(21.8)*	4(1.1)	85(23.1)	122(32.5)	81(21.5)	44(30.8)	0(0.0)	33(23.1)	38(26.6)	28(19.6)	38(16.3)	4(1.7)	54(23.2)	84(36.0)	53(20.6)
Social welfare	97(25.8)	7(1.9)	140(37.2)	83(22.1)	49(13.0)	49(34.3)	0(0.0)	48(33.6)	27(18.9)	19(13.3)	48(20.6)	7(3.0)	92(39.5)	56(24.0)	30(12.9)
Personal education	70(18.6)	22(5.9)	114(30.3)	80(21.3)	90(23.9)	39(27.3)	11(7.7)	32(22.4)	29(20.3)	32(22.4)	31(13.3)	11(4.7)	82(35.5)	51(21.9)	58(24.9)
Specialized commodities	108(28.7)	12(3.2)	129(34.3)	88(23.4)	39(10.4)	56(39.2)	2(1.4)	37(25.9)	35(24.5)	13(9.1)	52(22.3)	10(4.3)	92(39.5)	53(22.8)	26(11.2)
Agric. programme on mass media	54(14.4)	6(1.6)	105(27.9)	90(23.9)	121(32.2)	24(16.8)	2(1.4)	39(27.3)	35(24.5)	45(31.5)	30(12.9)	4(1.7)	66(28.3)	57(24.5)	76(35.6)
Media club association	104(27.7)	23(6.1)	153(40.7)	51(13.5)	45(12.0)	47(32.9)	7(4.9)	49(34.2)	25(17.5)	15(10.5)	57(24.5)	16(6.9)	104(44.6)	26(11.2)	30(12.9)
Disaster relief	126(33.5)	28(7.5)	94(15.0)	88(23.4)	40(10.6)	64(44.8)	9(6.3)	24(16.8)	31(21.7)	15(10.5)	62(26.6)	19(8.2)	70(30.0)	57(24.5)	25(10.7)
Community self-help	90(23.9)	9(2.39)	85(22.6)	126(33.5)	66(17.6)	64(44.8)	9(6.3)	24(16.8)	31(21.7)	15(10.5)	62(26.6)	19(8.2)	70(30.0)	57(24.5)	25(10.7)
Community-based agric practices	82(21.8)	11(2.9)	97(15.8)	91(24.2)	95(15.3)	43(30.1)	3(2.1)	29(20.3)	42(29.4)	26(18.2)	39(16.7)	8(3.4)	68(29.2)	49(21.0)	69(29.6)
Risk management in agriculture	96(25.5)	39(10.4)	107(28.5)	86(22.9)	48(12.8)	48(33.6)	13(9.1)	32(22.4)	35(22.4)	15(10.5)	48(20.6)	26(11.2)	75(32.2)	51(21.9)	33(14.2)

*Figures in parenthesis are percentages.

TABLE 5.15
Distribution of respondents according to legal information needs

Information type	All respondents (n = 376)					Secluded (n = 143)					Non-secluded (n=233)				
	None	Very low	Moderate	High	Very High	None	Very low	Moderate	High	Very High	None	Very low	Moderate	High	Very High
Citizen's rights	77(20.5)*	12(3.2)	113(30.0)	77(20.5)	97(25.8)	43(30.0)	4(2.8)	40(28.0)	21(14.7)	35(24.5)	34(14.6)	8(3.4)	73(31.3)	56(24.0)	62(26.6)
Land tenure status	84(22.3)	5(1.3)	125(33.2)	104(27.7)	58(15.4)	44(30.8)	2(1.4)	49(34.3)	32(22.4)	16(11.2)	40(17.2)	3(1.3)	76(32.6)	72(30.9)	42(18.0)
Land dispute settlement	91(24.2)	25(6.7)	129(34.3)	91(24.2)	40(10.6)	53(37.1)	7(4.9)	43(30.1)	31(21.7)	9(6.3)	38(16.3)	18(7.7)	86(36.9)	60(25.7)	31(13.3)
Landlord/tenant agreement	109(29.0)	10(2.7)	139(36.9)	85(22.6)	33(8.8)	56(39.2)	3(2.1)	42(29.4)	30(21.0)	12(8.4)	53(22.8)	7(3.0)	97(41.6)	55(23.6)	21(9.0)
Land compensation procedure	94(25.0)	34(8.0)	123(32.7)	81(21.5)	44(11.7)	47(32.9)	16(11.2)	39(27.3)	29(20.3)	12(8.4)	47(20.1)	18(7.7)	84(36.1)	52(22.3)	32(13.7)
Govt. regulation on environment protection	83(20.1)	20(5.3)	103(32.7)	113(30.1)	57(15.2)	42(29.4)	9(6.3)	25(17.5)	54(37.8)	13(9.1)	41(17.6)	11(4.7)	78(33.5)	59(25.3)	44(18.9)
Export-import regulation	113(30.1)	35(9.3)	123(32.7)	61(16.2)	44(11.7)	62(43.4)	7(4.9)	41(28.7)	21(14.7)	12(8.4)	51(21.9)	28(12.0)	82(35.2)	40(17.2)	32(15.7)
Agric. insurance	106(28.2)	42(11.2)	114(30.3)	73(19.4)	41(10.9)	53(37.1)	20(14.0)	40(28.0)	20(14.0)	10(7.0)	53(22.7)	22(9.4)	74(31.7)	53(22.7)	31(13.3)
Farming contact agreement	116(30.8)	19(5.1)	129(34.3)	69(18.4)	43(11.4)	55(38.5)	10(7.0)	37(25.9)	26(18.2)	15(10.5)	61(26.2)	9(3.9)	92(38.5)	43(18.5)	28(12.0)
Loan collateral procedures	119(31.7)	23(6.1)	120(31.9)	79(21.0)	35(9.3)	54(37.8)	12(8.4)	40(28.0)	22(15.4)	15(10.5)	65(27.9)	11(4.7)	80(34.3)	57(24.5)	20(8.6)

*Figures in parenthesis are percentages.

on-going agricultural programmes in radio, television as well as extension publications could result in the need to have more information on issues related to agriculture on the mass media. In essence, there is need to produce more agricultural programmes in the mass media to meet agricultural information needs of farmers.

5.3.1.4 Legal Information needs

Table 5.15 indicates that legal information needs of respondents is not very high. For instance, a majority rated issues related to legal information need as moderate. This is with particular reference to landlord/tenants/land dispute and land tenure status (37%, 34.3% and 33.2% respectively). In essence, the women are moderately informed about these issues. This development explains the critical nature of land related matters as they affect women in northern Nigeria. In most of the northern states of Nigeria, women are precariously landless and where they do own land it is either a family land or husband's land which she has no control over.

However, the table also shows that 46.3% of the farmers need information on citizen's rights. This suggest that women need to be adequately informed about issues related to rights of every citizen in each community. To this end, Olawoye (1994) had lamented that one of the major constraints to women farmers is their inability to have access as well as control over production resources. This situation has continued to undermine the production potentials of women farmers.

5.3.2 Sources of agricultural information

Table 5.16 shows that extension agents are the major sources of agricultural information to all women farmers (92.6%). This finding is in agreement with several others (Okunola, 1989; ONADEP, 1986; Anigwe, 1990 and Adewumi, 1990). In addition a majority of the respondents discuss their farm problems with extension agents on monthly and bi-monthly basis (20.2% and 55.6% respectively). The table further reveals that more non-secluded women (24.5%) discuss their problems once a month with the extension agents compared to only 13.3% of their secluded counterparts. This finding is further supported by the differences in hired labour source to the two categories of women where lured youth labourers constitute bulk of labour source due to prohibition of free interaction with male adults. This situation is worsened due to limitations of interaction which male extension agents can have with secluded women in the face of inadequate number of female extension agents.

Radio is the next major source of agricultural information to the respondents (72.1%). This is followed by agricultural shows organised by the ADPs and women groups (58.8% and 51.1% respectively). Radio as a major source of agricultural information is supported by previous findings. For instance Patel and Ekpere (1978) reported that 83% of farmers in Western Nigeria obtain agricultural information from radio. However, Olowu (1993) reported higher percentage (85%) of respondents who listen to radio

TABLE 5.16
Distribution of women farmers sources of agricultural information

Information Sources	All respondents		Secluded women		Non-seclude	
	Freq.	%	Freq.	%	Freq.	%
Extension agent:						
Yes	348	92.6	133	93.1	215	92.3
No	28	7.4	10	6.9	18	7.7
Frequency of discussion with extension Agent						
Once a month	76	20.2	19	13.3	57	24.5
Twice a month	209	55.6	74	57.8	135	57.9
Thrice a month	4	1.1	1	0.7	3	1.3
Weekly	75	10.9	45	31.5	30	12.9
None	12	3.2	4	2.8	8	3.4
Radio:						
Yes	271	72.1	104	72.7	167	71.7
No	105	27.9	39	27.3	66	28.3
Television:						
Yes	104	27.7	24	16.8	80	34.3
No	272	72.3	119	83.2	153	65.7
Newspapers:						
Yes	50	13.3	17	11.9	33	14.2
No	326	86.7	126	88.1	200	85.8
Women groups:						
Yes	192	51.1	81	56.6	111	47.6
No	184	48.9	62	43.4	122	52.4
Neighbours:						
Yes	153	40.9	51	35.7	103	44.2
No	222	59.1	92	64.3	130	55.8
Children and husbands						
Yes	124	32.9	41	28.7	83	35.6
No	252	67.1	102	71	150	64.4
Agric Show/ADP:						
Yes	221	58.8	73	51.1	148	63.5
No	155	41.2	70	48.0	85	36.5
Folk songs:						
Yes	57	15.2	22	15.4	35	15.1
No	319	84.8	121	84.6	198	84.9

farm broadcast, while ONADEP (1986) reported that 95% of their sample listen and obtain agricultural information from radio.

This study further shows that most of the respondents acknowledge their children/husbands (32.9%) as their source of information. This confirms the potency of mass media effect as explained in the Two - Step Flow Theory. This suggests that women farmers obtain information on agricultural and other national issues from their husbands and children who many have heard about the information from any of the mass media.

5.4

SECTION FOUR

5.4.1

WOMEN FARMERS' MEDIA USE PATTERN

This section presents the pattern of media use amongst women farmers. This covers their use pattern of radio, television, newspapers, extension publications and traditional media channels. It also provides an insight into the attitude of women farmers towards the appropriateness of these mass media channels for agricultural communication.

5.4.1.1. Pattern of radio use among women farmers

5.4.1.1.1 Radio ownership:

Table 5.17 shows that most women farmers (92.8%) own functional radio sets. This finding is similar to an earlier research that women (91.7%) generally have access to radio (Imam, 1992). Also higher ownership has been reported by Olayiwole (1984) among muslims women (100%) compared to 97% among non-muslim women. A similar trend was observed in this study where 93.7% of secluded women and 92.3% of non-secluded women own functional radio sets. On gender comparisons, this study is in agreement with Olowu's (1993) which revealed that radio ownership was as high as 92%.

5.4.1.1.2 Frequency of listening:

Seventy eight percent of women farmers listen to radio daily. However, more secluded women farmers (80.4 %) listen to radio than their non-secluded women counterparts (76.8%).

5.4.1.1.3 Duration of listening:

Generally, a majority of women listen to radio seven or more hours per day. While this pattern is parallel for the secluded and non-secluded women, a larger proportion (56.2%) of the latter listen more than the former (49.7%).

5.4.1.1.4 Favourite radio station:

The favourite radio station of women farmers is Radio Nigeria, Kaduna (33.5%). This is followed by Kaduna State Radio (27.9%) and Katsina State Radio (15.2%). This ranking or preference is the same for secluded and non-secluded women (Table 5.17).

5.4.1.1.5 Frequency of listening to agricultural radio programmes:

Generally, a majority of women farmers listen to agricultural radio programmes weekly (52.1%). Only 28.7% of women farmers listen to agricultural radio programmes daily. However, some secluded women (37.1%) listen to the same programme daily. Similarly, more secluded women listen to agricultural radio programmes on a weekly basis. These findings are similar to previous research that showed that secluded women listen to radio daily more than the non-secluded women (Imam, 1992).

5.4.1.1.6 Listening companion:

Table 5.17 shows that women, to a large extent, listen to radio in company of others (children 32.7% and husband 24.2%) and to a lesser extent, with friends and neighbours (10.4%). This trend is observed also for secluded and non-secluded women (Table 5.17).

5.4.1.1.7 Discussion after listening:

A majority of women (89.1%) discuss radio programmes after listening. While this pattern is common for secluded and non-secluded women, a

TABLE 5.17

Distribution of women farmers according to their use of radio

Radio use related variables	All respondents (n=376)	Secluded (n=143)	Non-secluded (n=233)
Radio ownership:			
Yes	349(92.8)*	134(93.7)	215(92.3)
No	27(7.2)	9(6.3)	18(7.7)
Listening frequency:			
Once a week	5(1.3)	1(0.7)	4(1.7)
Twice a week	25(6.6)	7(4.9)	18(7.7)
Three a week	15(4.0)	4(2.8)	11(4.7)
Daily	294(78.1)	131(91.6)	200(85.8)
Hours listened per day:			
< 2 hours	41(10.9)	24(16.8)	17(7.3)
3-4 hours	31(8.2)	11(7.7)	20(8.6)
5-6 hours	34(9.0)	14(9.8)	20(8.6)
> 7 hours	202(53.7)	71(49.7)	131(56.2)
No response	68(18.1)	23(16.1)	45(19.3)
Favorite radio station:			
Radio Nigeria, Kaduna	126(33.5)	44(30.8)	82(35.2)
Kaduna State Radio	105(27.9)	36(25.2)	69(29.6)
Katsina State Radio	57(15.2)	34(23.8)	23(9.9)
Radio Kano	15(4.0)	7(4.9)	8(3.4)
Rima Radio, Sokoto	16(4.3)	3(2.1)	13(5.6)
Others	61(16.2)	19(13.3)	30(12.9)
Frequency of listening to radio programmes:			
Daily	108(28.7)	53(37.1)	55(23.6)
Weekly	196(52.1)	70(48.9)	126(54.1)
Fortnightly	13(3.5)	4(2.8)	9(3.9)
Monthly	4(1.1)	1(0.7)	3(1.3)
Quarterly	2(0.5)	0(0.0)	2(0.9)
Listening companion:			
Alone	89(23.7)	46(32.2)	43(18.5)
Children	123(32.7)	44(30.8)	79(33.8)
Husband	91(24.2)	30(21.0)	61(26.2)
Friends	16(4.3)	1(0.7)	15(6.4)
Neighbours	23(6.1)	8(5.6)	15(6.4)
NIL	34(9.0)	6(4.2)	28(12.0)
Discussion after listening:			
Yes	335(89.1)*	131(91.6)	204(87.6)
No	41(10.9)	12(8.4)	29(12.4)
Most preferred format:			
Drama	105(27.9)	33(23.1)	72(30.9)
Story	114(30.3)	36(25.2)	78(33.4)
Jingles	17(4.5)	3(2.1)	14(6.0)
Narration/ Editorial	115(30.6)	41(28.7)	74(31.8)
Commentary	25(6.7)	10(6.9)	15(6.4)
Most preferred listening period to radio programmes:			
Morning: 6-9 a.m.	46(12.2)	19(13.3)	27(11.6)
8-11 a.m.	12(3.2)	4(2.8)	8(3.4)
10-12 noon	4(1.1)	4(2.8)	0(0.0)
No response	314(83.5)	114(79.7)	200(85.8)
Afternoon: 12-12 p.m.	25(6.6)	8(5.6)	17(7.3)
2-4 p.m.	24(6.4)	12(8.4)	12(5.2)
No response	327(87.0)	123(86.0)	204(87.5)
Evening: 4-6 p.m.	56(14.9)	17(11.9)	39(16.7)
6-9 p.m.	43(11.4)	13(9.1)	30(12.9)
No response	277(73.7)	113(79.0)	164(70.4)
Night: 8-10 P.M.	75(19.9)	30(21.0)	45(19.3)
10-12 midnight	10(2.7)	2(1.4)	8(3.4)
No response	291(77.4)	111(77.6)	180(77.3)
Ever participated in radio programmes:			
Yes	74(19.7)	33(23.1)	41(17.6)
No	302(80.3)	110(76.9)	192(82.4)
Willingness to participate on invitation:			
Yes	289(76.9)	111(77.6)	178(76.4)
No	87(23.1)	32(22.4)	55(23.6)

larger proportion (91.6%) of the former discuss radio programmes more than the latter (87.6%).

5.4.1.1.8 Most preferred format:

Generally, the most preferred radio format is narration/editorial commentary (30.6%), followed by story (30.3%) and drama (27.9%). However, most secluded women (39.2%) preferred story format compared to 31.8% of non-secluded women who preferred narration/editorial comments.

5.4.1.1.9 Preferred listening period:

The most preferred time for listening to agricultural radio programme is 8 -10p.m. (19.9%). Earlier studies show similar trend. For instance, Olowu (1993) reported 7 - 8 p.m. as the most favoured period. However, Adewumi (1990) reported that 83% of farmers preferred 6 - 9 p.m.

5.4.1.1.10 Participation in radio programme

A majority of the respondents (80.3%) have never participated in any radio programme.

5.4.1.1.11 Willingness to participate in radio programme

Generally, most of the women (76.9%) are willing to participate in radio programmes if invited. This trend is similar for secluded (77.6%) and non-secluded (76.4%) women. This shows the extent to which radio has captured the interest of women irrespective of their seclusion status.

TABLE 5.18

Distribution of respondents according to their use of television

Television use related variables	All respondents (n = 376)	Secluded (n = 143)	Non-secluded (n = 233)
Television ownership			
Yes	117(31.1)*	42(29.4)	75(32.2)
No	259(68.2)	101(70.6)	158(67.8)
Viewing frequency:			
Every night	31(8.2)	5(3.5)	26(11.2)
Thrice a week	12(3.2)	3(2.1)	9(3.9)
Twice a week	5(1.3)	1(0.7)	4(1.7)
Once a week	6(1.6)	0(0.0)	6(2.2)
Accidental	15(4.0)	10(7.0)	5(2.2)
Never	307(81.7)	124(86.7)	183(78.5)
Companion during watching of programmes:			
Alone	18(4.8)	12(8.4)	6(3.9)
Children	103(27.4)	25(17.5)	78(33.5)
Husband	72(19.2)	33(23.1)	39(16.7)
Friends	14(3.7)	6(4.2)	8(3.4)
Neighbours	40(10.6)	9(6.3)	31(13.3)
No response	129(34.3)	58(40.6)	71(30.5)
Preferred telecast time for agric programmes:			
Morning: 8 a.m.	16(4.3)	7(4.9)	9(3.9)
8-10 a.m.	9(2.4)	7(4.9)	2(0.9)
10-12 noon	2(0.5)	2(1.4)	0(0.0)
Nil	349(92.8)	127(88.8)	222(95.2)
Afternoon 12-2p.m.	13(3.4)	6(4.9)	7(3.0)
2-4p.m.	16(4.3)	8(5.6)	8(3.4)
Nil	347(92.3)	129(90.2)	218(93.6)
Evening: 4-6 p.m.	29(7.7)	11(7.7)	18(7.7)
6-8 p.m.	48(12.8)	10(7.0)	38(16.3)
Nil	299(79.5)	122(85.3)	177(76.0)
Night: 8-10 p.m.	94(25.0)	31(21.7)	63(27.0)
10-12midnight	23(6.1)	11(7.7)	12(5.2)
Nil	259(68.9)	101(70.6)	158(67.8)
Ever participating in television programmes:			
Yes	47(25.0)	21(14.7)	26(11.2)
No	329(87.5)	122(85.3)	207(88.8)
Willing to participate on invitation:			
Yes	234(62.2)	75(52.5)	159(68.2)
No	142(37.8)	68(47.5)	74(31.8)

5.4.1.2 Women farmers pattern of television use

5.4.1.2.1 Television ownership

Table 5.18 shows that about 31% of the respondents own functional television sets. This is higher than previous findings reported by Olayiwole (1984) and Imam (1992). For instance, Imam reported 16.7% television ownership while Olayiwole reported that only village heads own television sets. This trends shows an improvement in access to television among women farmers generally. A similar trend is observed among secluded women (29.4%) and non-secluded women (32.2%).

5.4.1.2.2 Viewing frequency

Table 5.18 shows that only 8.7% of women farmers watch television every night. However, a higher percentage of non-secluded women (11.2%) watch television than the secluded women.

5.4.1.2.3 Companion at watching:

Table 5.18 shows that women generally watch television programmes in company of their children (27.4) and husbands (19.2%). However, more secluded women (23.%) watch television in company of their husbands than non-secluded women (16.7%).

5.4.1.2.4 Preferred telecast time for agricultural programmes:

Generally, the most preferred telecast time for agricultural programmes to women farmers is 8 - 10p.m. (25%), but a higher percentage of non-

secluded women (27%) and a lower percentage of secluded women (21.7%) preferred the same period.

5.4.1.2.5 Participation in television programmes

While 12.5% of the respondents have participated in television programmes more secluded women (14.7%) have participated than non-secluded women.

5.4.1.2.6 Willingness to participate in television programme:

Table 5.18 shows that a majority of women farmers (62.2%) are willing to participate in television programmes if invited. However, a higher proportion of non-secluded women (68.2%) and a lower proportion of secluded women (52.5%) are willing to participate on invitation.

5.4.1.3 Newspaper use pattern among women farmers:

5.4.1.3.1 Newspaper readership:

Table 5.19 shows that women farmers (41%) do read newspapers. However, more non-secluded women farmers (46.4%) read newspapers than their secluded counterparts (32.2%).

5.4.1.3.2 Reading frequency:

Reading of newspapers is mostly on weekly basis (23.9%) Nevertheless, a higher percentage of non-secluded women (28.3%) and a lower percentage of secluded women (16.8%) read newspapers on weekly basis.

TABLE 5.19

Distribution of women farmers according to their use of newspapers

Newspapers Use Related Variables	All respondents frequency		Secluded		Non-secluded	
	Freq	%	Freq	%	Freq	%
Read newspapers:						
Yes	154	41.0	46	32.2	108	46.4
No	222	59.0	97	67.8	125	53.6
Reading Frequency						
Weekly	90	23.9	24	16.8	66	28.3
Twice a week	34	9.0	14	9.8	20	8.6
Thrice a week	15	3.9	4	2.8	11	4.7
4-6 times/week	11	2.9	3	0.8	8	3.4
Daily	30	7.9	12	3.2	18	7.7
Never	195	52.1	86	60.1	110	47.2
Types of newspapers:						
English	59	15.7	13	9.1	46	19.7
Vernacular	62	16.5	27	18.9	35	15.0
Both	69	18.4	19	13.2	50	21.5
None	186	49.3	84	58.7	102	43.8
Specific newspapers:						
New Nigeria	57	15.2	6	4.2	51	21.9
Gaskiya tafi Kwabo	101	26.9	35	24.5	66	28.3
Others	8	2.1	5	3.5	3	1.3
None	210	55.9	97	67.8	113	48.5
Discuss content after reading:						
Yes	192	51.1	64	52.5	136	54.9
No	184	48.9	79	55.2	97	41.6
Willingness to accept and discuss an interpreter						
Yes	211	56.1	75	52.5	136	58.6
No	105	43.9	68	47.5	97	41.6

5.4.1.3.3 Types of newspapers:

About 18% of women farmers read both English and vernacular newspapers. However, secluded women (18.9%) mostly read vernacular newspapers compared to 19.7% of non-secluded women who read English versions.

5.4.1.3.4 Specific newspapers:

Table 5.19 indicates that Gaskiya tafi Kwabo (Hausa version) newspaper is rated by most women (26.9%) as the major newspaper read. This is followed by New Nigerian (15.2%).

5.4.1.3.5 Discussion of content:

About half of the respondents (51.1%) discuss content of newspapers after reading. A majority of non-secluded women (54.9%) do this compared to 44.8% of secluded women who also discuss newspaper content after reading.

5.4.1.3.6 Willingness to accept and discuss with an interpreter:

Generally, women farmers (56.1%) are willing to accept and discuss with an interpreter. This trend is similar for secluded and non-secluded women farmers (52.5% and 58.4% respectively).

Table 5.20

Distribution of respondents according to their use of extension publications

Extension publications use related variables		All respondents (n=376)		Secluded (n=143)		Non-secluded (n=233)	
		Freq.	%	Freq	%	Feq	%
<u>Read extension publication:</u>							
	Yes	240	69.8	82	57.3	158	67.8
	No	136	36.2	61	42.7	75	32.2
<u>Types read:</u>							
Posters:	Yes	197	52.4	53	37.1	144	61.8
	No	179	47.6	90	62.9	89	38.2
Fact sheets:	Yes	30	8.0	10	7.0	20	8.6
	No	346	92	133	93.0	213	91.4
Input Manuals:	Yes	45	2.0	13	9.1	32	13.7
	No	331	88.0	130	90.9	201	86.3
<u>Newsletter:</u>	Yes	68	18.1	29	20.3	39	16.7
	No	308	81.9	114	79.7	194	83.3
Bulletins:	Yes	128	34.0	30	21.0	98	42.0
	No	248	66.0	113	79.0	135	58.0
Leaflets:	Yes	94	25.0	25	17.5	69	29.6
	No	292	75	118	82.5	164	70.4
<u>Preferred language of publication:</u>							
English:	Yes	170	45.2	54	37.8	116	49.8
	No	206	57.8	89	62.2	117	50.2
Hausa:	Yes:	279	74.2	106	74.1	173	74.3
	No	97	25.8	37	25.9	60	25.7
Arabic:	Yes	39	10.4	13	9.1	26	11.2
	No	337	89.6	130	90.9	207	88.8

5.4.1.4. Use pattern of Extension publications among women farmers:

As indicated on Table 5.20, a majority of respondents (69.8%) do read extension publications. However, posters (52.4%) is the main type. But more non-secluded women farmers (61.8%) read posters than their secluded counterparts (37.1%). This difference may be due to the fact that secluded women are often restricted to the household whereas posters are often displayed in public meeting points such as markets, play grounds, village heads hall (Zaure) etc.

The table further reveals that women generally do not read fact sheets (92%), input manuals (88%) newsletters (81.9%), bulletins (65%) and leaflets (75%). However, for those who read some of these publications, the most preferred language of the publications is Hausa (74.1%). This trend is similar among both secluded and non-secluded women (Table 5.20). This is further explained in Appendices VA and VB).

To a lesser extent, some of the women (45.2%) prefer publications in English. While a higher proportion of non-secluded women (49.8%) prefer publications in English about 38% of secluded women prefer publications in the same language.

TABLE 5.21
Distribution of respondents according to their use of traditional music

Extension publications use related variables	All respondents (n=376)		Secluded (n=143)		Non-secluded (n=233)	
	Freq.	%	Freq	%	Feq	%
<u>Listen to traditional music:</u>						
Yes	253	67.3	94	65.7	159	68.2
No	123	32.7	49	34.3	74	31.8
<u>Favourite traditional musicians:</u> Alhaji (Dr.) Mamman Shata:						
Yes	148	39.4	57	39.9	91	39.1
No	228	60.6	86	60.1	142	60.9
<u>Dan Kwoiro:</u>						
Yes	71	18.9	29	20.3	42	18.03
No	305	81.1	114	79.7	191	82.07
<u>Dan Maraya:</u>						
Yes	60	16.0	23	16.1	37	15.9
No	316	84.0	120	83.9	196	84.1

TABLE 5.22
 Respondents attitudinal disposition toward the appropriateness of various
 mass media channels for agricultural communication

Channels	Attitudinal disposition	Secluded Women farmers		Non-Secluded women farmers		X ²	Significance level
		Freq	%	Freq.	%		
Radio:	Favourable	107	74.8	157	67.4	2.35	0.125 ^{NS}
	Unfavourable	36	25.2	76	32.6		
Television	Favourable	57	39.9	121	51.9	5.8	.05*
	Unfavourable	86	60.1	112	43.1		
Newspaper	Favourable	30	21.0	50	21.5	1.86	.215 ^{NS}
	Unfavourable	113	79.0	183	78.5		
Extension publication	Favourable	72	50.4	130	55.8	1.06	.301 ^{NS}
	Unfavourable	71	49.6	103	44.2		
Traditional media	Favourable	67	46.9	108	46.3	0.1	.925 ^{NS}
	Unfavourable	76	53.1	125	53.6		
Participation in media programme	Favourable	60	31.4	160	68.7	6.5	.05*
	Unfavourable	131	68.6	25	10.3		

NS = Not Significant
 * = Significant P < .05

5.4.1.5 The use of traditional media among women farmers

Table 5.21 shows that most of the respondents (67.3%) do listen to traditional music. This trend is similar among secluded (65.7%) and non-secluded (68.2%) women farmers. These findings provide an insight into the possibility of disseminating agricultural information through traditional musicians, as the musicians enjoy reasonable patronage of women farmers. Akinleye (1986) had reported the success of this strategy in the popularisation of anti-cholera campaign in 1977.

5.4.1.6 Attitude of secluded and non-secluded women farmers towards the appropriateness of various mass media channels for agricultural communication.

The result of chi-square analysis presented on Table 5.22 shows that secluded women farmers are more favourably predisposed towards radio (74.8%) than their non-secluded counterparts (67.4%). However, this was not statistically significant ($X^2 = 2.35$; $p > .05$). Also non-secluded women farmers are more favourably predisposed towards television (51.9%) than their secluded counterparts (39.9%). This variation is statistically significant ($X^2 = 5.8$; $p < 0.05$). About half of the secluded women farmers (50.4%) are favourably predisposed towards extension publications compared to their non-secluded counterparts (55.8%). However, this is not statistically significant ($X^2 = 1.06$, $p > .05$).

The implication of this result is that some media are specific to particular women sub-groups for disseminating agricultural information. Whereas radio may be appropriate for secluded women, television is more appropri-

TABLE 5.23

Relationship between women farmers demographic characteristics and their media use pattern

Demographic variables	N	df	X ² -Value	Level of Significance	Contingency Coefficient (c)
<u>Seclusion status:</u>					
Secluded	143				
Non-secluded	233	2	10.19	.006**	.162
<u>Age:</u>					
Young	192				
Middle aged	168	4	6.64	.156 ^{NS}	.132
Elderly	16				
<u>Marital status:</u>					
Single	27				
Married (mono)	192				
Married (poly)	116	10	28.42	.001***	.269
Divorced	3				
Widowed	21				
No response	7				
<u>Educational attainment:</u>					
None	38				
Lower level	187				
Average level	97	6	6.61	.595 ^{NS}	.110
Higher level	54				
<u>Religion:</u>					
Islam	242				
Christianity	108				
Traditional and others	24	8	16.43	.037*	.205
None	2				
<u>Home background:</u>					
Rural	323				
Urban	50	2	16.15	.003**	.203
<u>Residential status:</u>					
Native	108				
Non-native	53				
Non-native married to native	159				
Native married to non-native	19	8	33.54	.000***	.286
No response	3				
<u>Land ownership status:</u>					
Personal land	94				
Land tenant	54				
Family land dependent	79	8	40.09	.000***	.310
Husband land dependent	113				
None	36				
<u>Social participation Index \bar{X}:</u>			.298***		

NS = Not significant at P > .05
 ** = Significant at P < .01

* = Significant at P < .05
 *** = Significant at P < .001

appropriate for secluded women, television is more appropriate for non-secluded women. However, other media such as newspapers, extension publications and traditional media are not sub-group specific. These findings are further supported by Nwuneli (1984).

5.5.0

SECTION FIVE

5.5 TESTING OF RESEARCH HYPOTHESES.

This section presents the results of the 11 hypotheses tested in this study. The results are presented in the order in which the specific objectives were stated.

5.5.1 Hypothesis 1:

There is no significant relationship between women farmers demographic characteristics (age, home background, educational attainment, religion, seclusion status, social participation, marital status, land ownership status and residence status) and their media use pattern.

The results of chi-square analysis on Table 5.23 indicate that some of the selected demographic characteristics of women farmers are significantly related to their media use pattern. The results show that women farmers seclusion status is significantly related to media use pattern ($X^2 = 10.19$; $p < .01$). The contingency coefficient shows that non-secluded women farmers

have higher media use status than their secluded counterparts. Similarly, marital status and religion are significantly related to media use pattern ($X^2 = 20.42$; $p < .001$ and $X^2 = 16.43$; $p < .05$ respectively). However, the contingency coefficient indicates that both married women in monogamous and polygamous households as well as the widowed have high media use pattern. Also, the results further reveal that Moslem women have higher media use status than their Christian counterparts.

Table 5.23 also reveals that home background and land ownership status are significantly related to media use pattern ($X^2 = 16.15$; $p < .01$ and $X^2 = 40.09$; $p < .001$ respectively). Indeed, the contingency coefficient (c) confirms that rural women have higher media use status than their urban counterparts. Similarly, land owners, land tenants and husband and family land dependents have high media use pattern. Furthermore, the result of Pearson Product Moment Correlation analysis shows that women farmers social participation index is positively and significantly correlated to media use pattern ($r = .298$; $p = .001$). The implication of this is that the more farmers participate in activities of various associations the more they use the mass media.

However, the result of chi-square analysis (Table 5.23) reveals that there is no significant relationship between respondents age and educational attainment and their media use pattern ($X^2 = 6.64$; $C = .156$ and $X^2 = 6.61$; $C = .595$ respectively). These findings are contrary to earlier findings of Nwuneli (1980) who found positive correlation between some mass media variable and education. He found in his study that radio listening, television

TABLE 5.24
Correlation of women farmers agricultural information needs
and task performed

Agricultural information needs	Agricultural task performance index	Correlation co-efficient		
		All respon- dents	Secluded	Non- secluded
General information needs index	General task performance index	.479***	.557***	.369***
Technical information needs	" "	.431***	.488***	.369***
Marketing information needs	" "	.465***	.532***	.362***
Social information needs	" "	.419***	.515***	.301***
Legal information needs	" "	.397***	.468***	.289***

** Significant at $P < .01$

***Significant at $P < .001$

viewing and newspaper reading were positively correlated to education ($r = .233$; $r = .337$ and $r = .454$ respectively). These variations may be gender specific. This may be due to the fact that this study is exclusively for women farmers while the previous study focussed only on male respondents.

5.2.2 Hypothesis 2

There is no significant relationship between women farmers agricultural information needs and tasks performed.

The results of Pearson Product Moment Correlation analysis on Table 5.24 show that agricultural information needs of women farmers is positively and significantly related to tasks performed ($r = .479$; $p < .001$). This implies that the more the agricultural tasks performed by women farmers the higher their agricultural information needs. These results also suggest that agricultural information needs are highly dependent upon agricultural task performed. Similarly, the results on Table 5.24 indicate the type of relationship that exist between secluded and non secluded women farmers' specific agricultural information needs (technical, marketing, social and legal) and agricultural tasks performed. Secluded women farmers consistently recorded higher correlation coefficient in all

TABLE 5.25
Correlation of women farmers' agricultural information needs and media use pattern

Agricultural information need variables	Media use variables	Correlation co-efficient (r)		
		All respondents	Secluded	Non-secluded
General information need index	General media use index	.536***	.336***	.284***
” ”	Listening to agric. programme	.281***	.377***	.244**
” ”	Attitude towards extension publications	.327***	.348***	.331***
” ”	Attitude towards newspapers	.235***	.184***	.251**
” ”	Attitude towards T.V. programme	.168***	.249***	.047 ^{NS}
” ”	TV programme preference	.332***	.484***	.226***
” ”	Attitude towards agric. radio programme	.317***	.368***	.323***
” ”	Radio programme preference	.399***	.414***	.383***
” ”	Radio programme listening frequency	.372***	.287***	.201***
” ”	Attitude towards traditional music	.275***	.314***	.244***
” ”	Listening to traditional music.	.166*	.211*	.108 ^{NS}

NS = Not significant
 * = Significant at P < 0.05
 ** = Significant at P < .01
 *** = Significant at P < .001.

the variables listed. The results are consistent across types of agricultural information needs for both secluded and non-secluded women farmers. It could be concluded, that the more agricultural tasks a women performs, the greater or higher her information needs . In order words, women's task performance may be maximised by limiting the number of tasks carried out or increasing the number of tasks but backing it up with substantial amount of information. Given the fact that women are involved in several tasks the need to disseminate information through several media channels becomes imperative.

5.5.3 Hypothesis 3

There is no significant relationship between women farmers information needs and their media use pattern.

The results of Peason Product Moment Correlation analysis in Table 5.25 show that agricultural information needs of women farmers is positively and significantly related to their media use pattern ($r = .536$; $p < .001$). Secluded women farmers obtained higher correlation coefficient between general agricultural information needs and television programme preference ($r = .484$; $p < .001$) compared to their non-secluded counterparts ($r = .226$; $p > .001$). This trend is observable in most of the media use variables and general information need index (Table 5.25) .

TABLE 5.33
**Gender variations in media practitioners attitude towards women farmer's
 participation in media programme production**

Name of variable	N	Mean \pm SE	df	t-Value	Level of significance
Gender:					
Male	90	107.62 \pm 1.57	89	-4.37	.001***
Female	30	117.40 \pm 1.58	29		

*** = Significant at $p < .001$

SE = Standard Error.

These findings are in line with trends observed by Nwuneli (1980). Therefore, these results suggest that women farmers media use pattern depend on their information needs. Hence, the higher the information need of women farmers the higher their media seeking tendencies. That is the more they watch television, the more they listen to radio and the more they read newspapers and extension publications.

5.5.4 Hypothesis 4

Agricultural information needs of rural women farmers is similar to those of urban women farmers. The result of t-test analysis on Table 5.26 shows that there is no significant difference in agricultural information needs of rural and urban women farmers ($t = -0.13$; $p = .233$). Rural women farmers general information needs score is similar to that of their urban counterparts ($\bar{X} = 107.61$ and $\bar{X} = 108.66$ respectively). This result implies that irrespective of women farmers place of residence, agricultural information needs are the same.

5.5.5 Hypothesis 5

There is no significant difference between the socio-economic status of secluded and non-secluded women farmers.

Table 5.27 shows that there is a significant difference in the socio-economic status of secluded and non-secluded women farmers. The result of t-test analysis indicates that non-secluded women farmers have higher

socio-economic status ($\bar{X} = 141.49$) than their secluded women counterparts ($\bar{X} = 131.56$). This difference is statistically significant ($t = -4.98; p < 001$). This difference may be due to the degree of variation in task performed and media use pattern. That is, the more agricultural task a woman performs the higher her information needs and the higher her information needs the higher her media use pattern. Hence, these may translate into higher income or economic gains which will consequently enable her to purchase more agricultural/household items.

5.5.6 Hypothesis 6

Secluded women farmers information needs significantly differ from those of non-secluded women farmers.

The result of t-test analysis in Table 5.28 shows that agricultural information needs of secluded women is significantly different from their non-secluded counterparts ($t = -2.92; p = .01$). The result further indicates that secluded women have less information needs ($\bar{X} = 98.15$) compared to higher information needs of non-secluded women farmers ($\bar{X} = 113.65$). This variation could be explained by the knowledge-gap hypothesis which indicates that inequality exist among a given population with regards to information accessibility. To this end, Roggers (1974) had posited that "as information into a social system increases, segments of the population with higher socio-economic status tend to acquire this informa

TABLE 5.27

T-test analysis of differences between secluded and non-secluded women farmers' socio-economic status

Name of variable	N	Mean \pm SE	df	t-Value	Level of significance
Seclusion status::					
Secluded	233	131.56 \pm 1.42	232		
Non-secluded	143	141.49 \pm 1.41	142	-4.98	.01**

** = Significant at P < .01

SE = Standard Error

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TABLE 5. 28
T-test analysis of differences between secluded and non-secluded women farmers' information needs

Name of variable	N	Mean \pm SE	df	t-Value	Level of significance
General information need index:					
Secluded	143	98.15 \pm 4.46	142	-2.92	.01**
Non-secluded	233	113.65 \pm 2.88	232		
Technical information need index:					
Secluded	143	28.36 \pm 1.19	142	-1.34	.03*
Non-secluded	233	30.26 \pm 0.79	232		
Marketing information need index:					
Secluded	143	23.72 \pm 1.23	142	-3.07	.02*
Non-secluded	233	28.09 \pm 0.71	232		
Social information need index:					
Secluded	143	24.91 \pm 1.26	142	-2.43	.05*
Non-secluded	233	28.61 \pm 0.85	232		
Legal information need index:					
Secluded	143	21.18 \pm 1.28	142	-3.54	.07 ^{NS}
Non-secluded	233	26.67 \pm 0.88	232		

SE = Standard Error

NS = Not Significant; P > .05

** = Significant at P < .01

* = Significant at P < .05

tion at a faster rate than the lower status segments". This postulation is in agreement with the findings of the study where secluded women farmers with lower information needs are of lower socio-economic status ($\bar{X} = 131.56$) compared to their non-secluded counterparts of higher socio-economic status ($\bar{X} = 141.49$). However, the study further reveal that women farmers agricultural information needs is positively and significantly related to task performed ($r = .479, p = .001$). This suggest that the higher the agricultural task performed by women farmers the higher their information needs. This is further supported by the result of t-test analysis which indicates that secluded women farmers perform less task ($\bar{X} = 31.20$) compared to their non-secluded counterparts ($\bar{X} = 37.64$). This difference is statistically significant ($t = -3.31; p.001$). Therefore, it can be concluded that since non-secluded women farmers perform more agricultural task they certainly need more information than their secluded counterpart who perform less agricultural tasks.

However, Table 5.28 further shows the extent of variation on specific information needs. Though legal information need is not significantly different, technical, marketing and social information needs are significantly different ($t = -1.34; p < .05$; $t = -3.07; p < .01$ and $t = -2.43; p < .05$ respectively). Hence, variation in agricultural task performed could be responsible for variation in agricultural information needs of both categories of women farmers.

TABLE 5.29
T-test analysis of differences between secluded and non-secluded
women farmers' attitude toward mass media use

Name of variable	N	Mean \pm SE	df	t-Value	Level of significance
Attitude of women towards mass media use:					
Secluded	143	136.45 \pm 4.55	142		
Non-secluded	233	153.12 \pm 2.98	233	-3.064	.02*

* = Significant at P < .05
 SE = Standard Error

TABLE 5.30
T-test analysis showing differences between secluded and non-secluded women farmers media use pattern

Name of variable	N	Mean \pm SE	df	t-Value	Level of significance
Media use pattern					
Secluded	143	355.68 \pm 9.54	142		
Non-secluded	233	386.46 \pm 7.44	233	-2.54	.94 ^{NS}

NS = Not significant at P > .05
 SE = Standard Error

5.5.7 Hypothesis 7

Secluded women farmers attitude towards mass media use is significantly different from that of non-secluded women farmers.

Table 5.29 shows the result of t-test analysis on women farmers attitudes towards mass media use. The result indicates that secluded women farmers attitude is generally significantly different from their non-secluded counterparts ($t = -3.06$; $p < 05$). The result further shows that non-secluded women farmers have more favourable attitude towards mass media use ($\bar{X} = 153.12$) than their secluded counterparts ($\bar{X} = 136.45$).

5.5.8 Hypothesis 8

There is no significant difference between secluded and non- secluded women farmers media use pattern.

Table 5.30 indicates that non-secluded women farmers use the mass media more than the secluded women farmers ($\bar{X} = 386.46$ and $\bar{X} = 355.68$ respectively). However, this difference is not statistically significant ($t = 2.54$; $p = .94$). That is secluded and non-secluded women have similar media use pattern. But it should be noted that agricultural information needs is significantly different for both groups while information needs is positively correlated to media use pattern.

5.5.9 Hypothesis 9

Electronic media practitioners' attitudes towards women farmers participation in agricultural media programmes production is different from that of print media practitioners.

The result of Duncan Multiple Range test shows that there is no significant difference in the attitudinal disposition of electronic and print media practitioners toward women farmers participation in agricultural media programmes production. This is reflected in Table 5.31 where electronic media practitioners have a mean score of 110.59 compared to their print media counterpart ($\bar{X} = 109.12$). A probable explanation for this similarity the commonality in their training and in-house socialization.

5.5.10 Hypothesis 10

Media practitioners demographic characteristics are not significantly related to their attitude towards women farmers participation in agricultural media programme production.

The result of chi-square analysis shown on Table 5.32 indicates that only media practitioners' gender and religion are significantly related to their attitudinal disposition towards women farmers participation in media programme production ($X^2 = 4.04$; $p < .05$ and $X^2 = 6.29$; $p < .05$).

Table 5:31
Differences between print and electronic media practitioners attitude

Media practitioner category	Mean attitudinal score
Electronic	110.59 ^a
Print	109.12 ^a

Mean attitudinal scores with the same letter are most significantly different.

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TABLE 5.32

Relationship between media practitioners demographic characteristics and their attitudinal disposition towards women farmers

Name of variable	df	X ²	Contingency coefficient
Media category			
Electronic and print	3	4.19 ^{NS}	.184
Ownership status:			
Governemnt			
Private	1	0.24 ^{NS}	.044
Gender:			
Male			
Female	1	4.04*	.180
Age:			
Average age.			
Elderly	2	0.75 ^{NS}	.079
Religion:			
Islam			
Christianity	1	6.29*	.223
Income Level			
High			
Medium	2	3.29 ^{NS}	.163
Low			
Home background			
Rural			
Urban	2	1.02 ^{NS}	.162
Tenure in profession			
Long			
Medium	2	0.05 ^{NS}	0.019
Short			
Educational attainment:			
Lower level			
Moderate level	2	2.37 ^{NS}	.139
Higher level			

NS = Not significant $p > .05$.

* = Significant at $P = 0.05$.

However, there is an inverse relationship between gender and attitude. The result of contingency coefficient indicates that female media practitioners are more favourable towards women farmers participation than their male counterparts. Also, a positive correlation is observed for religion and attitude. Therefore, the results suggest that gender and religion influence media practitioners' attitude (favourable or unfavourable) towards women farmers participation in media programme production.

Table 5.32 indicates that there is no significant relationship between the type of media organisation (electronic and print) and income level of media practitioner and their attitudes towards women farmers. Similarly, educational attainment is not statistically significantly related to attitude.

5.5.11 Hypothesis 11

Male media practitioners' attitudes towards women farmers participation in agricultural programme production is not significantly different from their female counterparts' attitude.

The result of t-test statistical analysis (Table 5.33) shows that female media practitioners are more favourably predisposed than their male colleagues ($\bar{X} = 117.40$ and $\bar{X} = 107.62$ respectively). This difference is statistically significant ($t = -4.37$; $p = .001$). This implies that women media practitioners could be used to enhance the participation of women farmers in agricultural programmes.

TABLE 5.26
T-test analysis showing differences between rural and urban
women farmers media use pattern

Name of variable	N	Mean \pm SE	df	t-Value	Level of significance
Home background					
Rural	323	107.61 \pm 2.63	322		
Urban	50	108.66 \pm 7.57	49	-0.13	.233 ^{NS}

NS = Not significant at P = .05

SE = Standard Error

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CHAPTER SIX

6.0. SUMMARY, IMPLICATIONS, CONCLUSION AND RECOMMENDATIONS

This chapter presents a summary of preceding chapters, highlights major findings of the study and their implications for effective extension delivery to women in agriculture. The conclusions that are drawn from the investigations and recommendations based on the research findings are also presented. It also suggests areas for further research, based on the issues arising from the study.

6.1 INTRODUCTION:

Women have been acknowledged for their enormous contributions to agricultural production in Nigeria. They are responsible for as high as 70% of actual farm work and constitute up to 60% of the farming population.

However, despite the acknowledged significant contribution of women to agricultural development in Nigeria, they remain marginalised. This is with regard to inadequate agricultural information and under-utilization of mass mediated strategies of information dissemination which has rendered extension delivery to women farmers ineffective. However, the reported success stories of agricultural transformation in many countries have vital links with farmers ready access to agricultural information. Thus, one crucial role of communication for women in development is their reach to

mainstream media (radio, television, newspapers, extension publications and traditional forms of communication.) These media, to a large extent, have been recognised to constitute the largest informer and maker of public opinion.

It is against this background that this study attempted to determine the information needs and media use pattern of women farmers and their socio-economic profile. It also investigated the attitude of media practitioners towards the participation of women farmers in media programme production.

A total of 376 women farmers, consisting of 143 secluded women farmers and 233 non-secluded women farmers, were selected, using multi-stage and stratified sampling techniques. Respondents were randomly sampled and interviewed in selected extension blocks in north-central Nigeria (comprising Kaduna and Katsina states). Also, 120 media practitioners were randomly sampled and interviewed from both print and electronic media in Kaduna and Katsina states.

Two separate structured questionnaires were designed and administered to media practitioners and women farmers in north central Nigeria. The validated interview schedule for women farmers (I.S.W.F.) was administered to the respondents in their homes with due permission from their husbands.

Data collected between September 1994 and January 1995 were analysed, using both descriptive and inferential statistics such as frequencies, percentages, t-test, chi-square, Duncan multiple range test, and Pearson Product Moment cCorrelation.

The hypotheses postulated in the study were tested at .05 probability level.

6.2. SUMMARY OF MAJOR FINDINGS

6.2.1 Demographic characteristics of media practitioners.

The results reveal that majority of the media practitioners are male (75%) with only 25% being females. This shows that the profession is male dominated.

The result also reveal that mos of the respondents (71.1%) are less than 35 years. This implies that majority of the media practitioners are in their active years. Also over 90% of the respondents have above secondary school certificate with 40.8% having first degree. This shows that respondents are well trained for the challenges inherent in the profession.

Media practitioners are predominantly urban based (71.7%) despite the fact that 51% and 42% of practitioners have background training in agriculture and sociology/rural sociology respectively.

Also, 39% of the respondents have been in the profession for less than 5 years.

6.2.2. Attitude of media practitioners towards women farmers participation in media programme production

Analysis performed on respondents attitude revealed that media practitioners generally have favourable attitude towards women farmers. However, media practitioners do not subscribe favourably to women farmers participating in media programme production neither do they favour the idea of making women a major target in audience analysis. But the practitioners favour the intensification of focus group discussion sessions in media production. Similarly, practitioners agree to visiting women on their farms for media documentary programmes that will enhance their productivity.

To improve women farmers participation in media programmes recommend more air-time for electronic media (21.2%) and more space/volume for print media for women oriented programmes (19.6%).

6.2.3 Background information on women farmers

6.2.3.1 Demographic characteristics of women farmers.

A majority of the women (79%) are 40 years or below but the modal class for secluded and non-secluded women are 26 - 30 years(25.9%) and 30 - 40 years (27.9%) respectively.

Only 36% of the respondents have completed primary to tertiary education. However, a majority of secluded women (42.7%) have koranic education compared to only 22.3% of non-secluded women.

Similarly, most women (30.5%) have land owned by their husbands. The major secondary source of income for women farmers is food crop processing (24.5%). While this is the same for non-secluded women (24%), crafts is the major source of secondary income for secluded women (27%).

6.2.3.2 Socio-economic status of women farmers

The result of analysis of socio-economic indicators shows that most of the women farmers (58.5%) possess farms smaller than 5 hectares. Also, women farmers are predominantly involved in cereals (95.2%) and legumes (84.1%) and to a lesser extent they cultivate root crops (46.3%) and vegetables (12.8%). The result of the study also reveal that women farmers generally keep cattle (29.8%); goats (84.3%); sheep (61.9%) and pig (20.2%) and camel (6.1%).

The results further reveals that a small percentage of women farmers (17.3%) possess plastered and painted houses. The commonest house type among respondents is mud house (44.7%). Also, the commonest bedroom item and sitting room interior decorators are floor mats (48.4%) and breakable plates (48.2%) respectively.

The results also show that only 13% of the respondent possess 1 - 2 gold plated wrist watches compared to 34.6% that have the ordinary type.

6.2.3.3 Social Participation.

Women farmers regularly participate in religious activities (46.7%), a dashi (35.9%) and women cooperatives (30.3%) activities. To a lesser extent, they participate in farmers union (21.5%), radio listeners club (25.3%) and radio greetings club (25.3%). However, both secluded and non-secluded women farmers are quite similar in the level of participation in various group activities.

6.2.3.4 Agricultural tasks performed by women farmers.

Generally, women farmers are highly involved in planting (76.9%), land clearing (72%), fertilizer application (68.1%), harvesting (67.3%), weeding (65.2%) and thinning (63.8%). However, more non-secluded women are highly involved in planting (85%) than secluded women (63.7%). Also, more non-secluded women are involved in land clearing (80.3%), fertilizer

application (77.7%) and harvesting (75.1%), compared to their secluded counterparts who are more involved in storage (60.8%), land clearing (58.8%) and ridge making (56.7%). While hired youth labourers (79.5%) constitute the bulk of labour source to women farmers, children constitute a higher source of labour to non- secluded women (62.2%) than to the secluded women (53.2%). But none of the secluded women patronise hired adult labourers as against 52.4% of non-secluded women farmers who do.

6.2.4 Agricultural information needs of women farmers.

6.2.4.1 Technical information needs

The most critically needed technical information by women farmers is related to disease/pest control (65.1%), cropping system (59.6%), crop storage (59.3%) and soil management (59.6%). Secluded women need higher technical information for disease/pest control (67.2%) and crop storage (60.2%) than their non-secluded counterparts (63.9% and 57.8% respectively).

6.2.4.2. Marketing information needs

To a majority of the women, marketing Information is moderately needed. Some of the marketing variables rated as moderately needed information include – market location (42.3%), budgeting method (43.1%), produce timing (43.4%) and produce substitution (41.2%). However, cur-

rent market prices (56.7%) and future marketprices (39.4%) are the two major marketing areas where more information is needed.

6.2.4.3. Social information needs

Only information related to agricultural programme on the mass media is highly needed by most of the respondents (56.1%). This trend is similar for secluded (54.6%) and non-secluded women (57.1%). Other types of social information are moderately needed.

6.2.4.4. Legal information needs

The study reveals that legal information need of women is not very high. This is with particular reference to landlord/tenant dispute, land dispute and land tenure status (37%, 34.3% and 33.2% respectively).

6.2.5. Sources of agricultural information

The major source of agricultural information to women farmers is extension agents (92.6%). Also, women discuss their farm problems with extension agents on monthly and bi-monthly basis (20.2% and 55.6% respectively). A higher proportion, though of non-secluded women (24.5%) and a lower proportion of secluded women (13.3%) discuss their respective farm problems with extension agents.

Radio is the next major source of agricultural information to all the women (72.1%). This is followed by ADPs (58.8%) and women groups (51.1%).

6.2.6. Women farmers' media use pattern

6.2.6.1 Radio use pattern: Most women farmers own functional radio (92.8%). A majority (78.2%) listen to radio daily with more secluded women farmers (80.4%) listening to radio than their non-secluded counterparts (76.8%). More than half of the women farmers (52.1%) listen to agricultural radio programmes weekly and they do this mostly in the company of others (86%).

The favourite radio station is Radio Nigeria, Kaduna (33.5%), followed by Kaduna State Radio (27.9%) and Katsina State Radio (15.2%). The most preferred listening time to agricultural radio programme is 8-10p.m. (19.9%). The study shows that a majority of the respondents (80.3%) have never participated in any radio programme. More secluded women (77.6%) are willing to participate on radio programmes if invited compared to 76.4% of non-secluded women farmers.

6.2.6.2. Television use pattern.

The study reveals that only 31.1% of the respondents own functional television sets. However, only 8.2% watch television every night with 11.2% non-secluded women belonging to this category of viewers compared to 7% of secluded women who are accidental viewers.

The study further reveals that only 12.5% of the respondents have ever participated in television programmes. Interestingly, 62.2% of the respondents are willing to participate in television programmes, if invited. More non-secluded women (68.2%) and lower percentage of secluded women (52.5%) are willing to participate in television programmes if invited. Meanwhile, the most preferred telecast hour to most of the women (25%) is 8 – 10p.m. This trend is similar for secluded (21.7%) and non- secluded women (27%). Most women watch agricultural programmes in the company of others (61.9%).

6.2.6.3. Newspaper use pattern.

The study indicates that women farmers (40.9%) generally do read newspapers (Vernacular and English versions). Again, more non- secluded women (46.4%) read newspapers than their secluded counterparts (32.2%).

Gaskiya tafi Kwabo (Hausa vernacular newspaper) was rated by 26.9% of women as the major newspaper read, followed by New Nigerian

(15.2%). About half of the respondents (51.1%) discuss the content after reading. Also, a majority of non-secluded women (58.4%) are willing to accept and discuss with an interpreter compared to only 44.8% of secluded women.

6.2.6.4 Use pattern of extension publications and traditional media

Most of the respondents (69.8%) do read extension publications. However, posters (52.4%) is the main type. A higher proportion of non-secluded women (61.8%) read posters than their secluded counterparts (37.1%). The most preferred language of publication is Hausa language (74.2%). The study also shows that (67.3%) of the respondents do listen to traditional music. Also a majority of women farmers (88.5%) listen to folk music on electronic media.

6.2.7 Other mass media-use-related findings

Analysis performed on women farmers' attitudes towards the appropriateness of various mass media channels for agricultural communication reveals that secluded women are more favourably predisposed towards radio (74.8%) than their non-secluded counterparts (67.4%). On the contrary, non-secluded women farmers are more favourably predisposed towards television (51.9%) than their secluded counterparts (39.9%). Also, about half of the secluded women (50.4%) are favourably predisposed towards extension publications compared to a higher proportion of non-secluded women (55.8%).

Generally, the results of chi-square analyses show that the following demographic characteristics of women are significantly related to their media use patterns.

- (i) Seclusion status ($X^2 = 10.19; p < .01$)
- (ii) Marital status ($X^2 = 20.42; p < .001$)
- (iii) Religion ($X^2 = 16.43; p < .05$)

The results of Pearson Product Moment Correlation analyses reveal that social participation index is positively and significantly correlated to media use pattern ($r = .298; p < .001$). Further analyses show that urban and rural women farmers have similar information needs. But non-secluded women have higher information needs, higher socio-economic status and more favourable attitude towards participation in mass media programmes than the secluded women farmers.

6.2.8 Media practitioners' disposition towards women farmers

The study reveals that there is no significant difference in the attitude of print media practitioners and electronic media practitioners participation toward women farmers participation in media programme production. Female media practitioners show more favourable attitude towards women farmers ($\bar{X} = 117.40$) than their male colleagues ($\bar{X} = 107.62$).

6.3 IMPLICATIONS OF THE STUDY

This study reveals that journalism is a male dominated profession, though most of the respondents are young (less than 35 years). This implies that the practitioners are in their active years. They are also well educated (over 50% are holders of first degree and above). However, since some of the practitioners have requisite background training in agriculture and sociology/rural sociology they are likely to favour coverage of agricultural and other rural occupations. Consequent upon this, they are generally favourably predisposed towards women farmers participation in media programme production.

The study reveals that women farmers generally have similar demographic characteristics. Most of the women are in their child bearing years, though secluded women are younger.

It should be noted that both categories of women require more functional education, particularly secluded women farmers. Also, a majority of women are husband's land dependent. Therefore, there is a need for legislative reorientation or cultural consideration of women's land ownership pattern. If land use pattern must favour women, they need to have more access to land for agricultural activities.

As regards women's socio-economic status, women generally possess farms less than 5 hectares. More secluded women farmers belong to this category, and they cultivate similar crops (predominantly, cereals and

legumes). This explains the significance of these crop types in household food security in northern Nigeria. Similarly, women keeps domestic animals for both household consumption and income generation. Both secluded and non-secluded women keep cattle, goats, poultry, animals and cattle. This explain the need for intensification of the principles of Unified Agricultural Extension Services (UAES) which provides for extension delivery to both crop and livestock farmers by the same extension agent.

The study shows that both secluded and non-secluded women possess a number of household utensils such as plates, furniture, and jewelry that could serve as personal security to women. These items could also serve as collateral to credit agencies and insurance brokers, especially as the women are engaged in religious and adashi group activities. They can organise themselves to procure production inputs and procurement of credit facilities. This findings also suggests that extension services aimed at specific women groups are likely to achieve higher results, based on the relevance of group dynamics in extension dispensation.

The study shows that women farmers are generally involved in the following farm operations – land clearing, planting, weeding, harvesting, fertilizer application and storage. This notwithstanding, women farmers tend to depend on hired youth labourers for these farm operations.

With reference to agricultural information needs, the technical areas women generally need information are related to diseases/pest control and crop storage. This implies that technologies related to crop protection and

storage need to be emphasised in on-going research-extension-user linkage network. Similarly, if farmers must maximise the benefits of their production efforts, they should be constantly informed about current market and future prices of their produce. Also, the study suggests that most farmers need information on mass media agricultural programmes. Consequent upon this, women need to be enlightened about the content and programme schedule of various mass media channels.

Agricultural extension agents remain the major source of information to a majority of women farmers followed by the radio and ADPs and women groups respectively. This result indicates the need to intensify ADP's activities and women groups. However, radio remains an outstanding channel where farmers generally obtain agricultural information. This explains the indispensability of the channel in agricultural communication. While Radio Nigeria Kaduna is the most favoured radio station to farmers in northern Nigeria, the most preferred listening time is 8 - 10 p.m.

Generally, very few women have access to television and newspapers. However, more non-secluded women watch television programme than their secluded women, on the one hand, and more non-secluded women read newspapers than their secluded counterparts, on the other.

Interestingly, a majority of women read extension publications with posters being the main type. But more non-secluded women have access to posters than secluded women. Therefore, there is a need to diversify the distribution of posters for the benefit of both women categories. That is, posters should not be

restricted to public spots only but also to households as well. These posters and other extension publications should be published in language(s) common to the audience of such localities.

The result of analysis of women farmers' attitude towards the appropriateness of various mass media channels for agricultural communication shows that some media are specific to particular women sub-groups for disseminating agricultural information. Whereas radio may be appropriate for secluded women, the television is more appropriate for non-secluded women. However, others such as newspapers, extension publications and traditional media are not sub-group specific.

Analysis of women farmers information needs suggests that agricultural information needs are highly dependent upon task performed. This is consistent among both secluded and non-secluded women farmers. Therefore, women farmers' task performance may be maximised by limiting the number of task carried out or increasing the number of tasks but backing stopping with substantial amount of information. Also, agricultural information needs of women are related to their media use pattern. Hence, the higher the information needs of women farmers the higher their media seeking tendencies. That is, the more they watch television, listen to radio and read newspapers and extension publications. This trend is similar among rural and urban women farmers. This is predicated on the principles and practice of agriculture as they apply to both rural and urban environments.

Information needs of the two categories of women vary significantly. Whereas secluded women need less information, non-secluded women need higher information. Variations in agricultural task performed may be responsible for this disparity. For instance, non-secluded women farmers who perform more agricultural tasks also need more information.

The results obtained reveal that non-secluded women farmers have more favourable attitude towards media use than their secluded counterparts. This variation may be due to exposure to various mass media channels. That is, the more a woman is exposed to the radio, television, newspaper, and extension publications the more favourable her attitude towards such media will be.

As regards attitude of media practitioners towards women farmers participation in media programmes' production, electronic and print media practitioners are similar in their attitude towards women farmers. This suggests that both electronic and print media practitioners are willing to involve women farmers in their programmes. But the female practitioners are more favourably predisposed towards women farmers than their male colleagues. This suggest that the involvement of females in media practice is of great advantage to development communication planners and development agencies. It appears that they will cater for the needs of their female audiences.

6.4

CONCLUSION

The main objective of this study has been to determine the agricultural information needs and media use pattern of women farmers in north central Nigeria. The study was guided by some research questions and hypotheses as regards demographic characteristics, agricultural information needs, agricultural tasks performed, and media use pattern of secluded and non-secluded women farmers.

Based on the empirical evidence of this study it could be concluded that

- (i) journalism is a male dominated profession.
- (ii) that non-secluded women have better standard of living than secluded women farmers.
- (iii) non-secluded women farmers perform more agricultural tasks than their secluded counterparts.
- (iv) secluded women farmers need more technical information related to disease/pest control and crop storage than non-secluded women.
- (v) agricultural extension agents are the leading sources of agricultural information for women.
- (vi) radio and posters are the most favourable electronic and print media or most accessible agricultural information source to women farmers. However, the sub-groups are different.

- (vii) radio is the most appropriate channel for information dissemination to secluded women.
- (viii) television is more appropriate for non-secluded women.
- (ix) women farmers information need highly depend on task performed.
- (x) women farmers' information needs influences their media use pattern.
- (xi) female practitioners have more favourable attitude towards women farmers than their male colleagues.

6.5

RECOMMENDATIONS

Based on the findings, discussions and conclusions drawn from this study, the following recommendations are made toward enhancing extension delivery to women farmers operating under different social, cultural and economic milieu.

In view of the significant and acknowledged roles of mass media in development, development oriented policies in Nigeria with particular reference to agriculture should be formulated with due appreciation of the vital roles of mass media in development. Therefore, it is suggested that all women in development oriented programmes including agriculture, health, education, family support programmes in all the states of the federation should utilize a multi-media approach to complement on-going outreach strategies to women. Special attention should also be paid to using radio to reach secluded women and television to reach non-secluded women. Posters should be distributed

beyond public spots to various households for wider use by both secluded and non- secluded women.

It is also recommended that the drudgery associated with the numerous tasks performed by women be minimised through the development of appropriate technologies. In addition, the advantages of group associations such as religious and women cooperative groups should adequately be used by change agents to facilitate credit and input procurement to ease their farm operations.

It is also recommended that extension packages for women farmers should focus on technical information related to disease/pest control and crop storage techniques. Such packages should also take cognisance of current and market prices of women's farm produce. Similarly, more agricultural information should be made available to women so that they will meet their high information need from various mass media channels.

In order to enhance the use of print media, extension publications should be published in Hausa language and the native languages of the various communities. Also, traditional musicians should be contracted to produce audio cassettes with specified agricultural information at affordable prices for farmers. Such cassettes could be played in various radio stations, particularly in the northern states of Nigeria.

Since media practitioners from both electronic and print media favour women farmers' participation in media programme production, women farmers should be involved in programme production. Also, media practitioners should produce on-farm documentaries. Women farmers should be provided with

educational opportunities in form of adult literacy programmes. This will minimise constraints to media practitioners coverage of women activities.

It is suggested that 20% air-time and newspaper space (volume) be allocated to women agricultural programmes.

It is also recommended that more female media practitioners should be employed by media organisations to enhance the coverage of women related activities. Also, schools of journalism and mass communication should incorporate development communication researches that focus on women in development, agricultural and rural development studies as part of their curriculum.

Finally, mass media organisations should employ graduates with agricultural background, particularly graduates of agricultural extension and rural sociology. This will facilitate reporting and coverage of agricultural activities with high degree of accuracy. Also there is the need for integrated media users - producers-extension interaction, that is media practitioners and extension professionals, farmers and policy makers should come together from time to time to exchange ideas on how to enhance extension delivery to farmers generally and women in particular.

5.6 AREAS FOR FURTHER RESEARCH

This research effort does not provide answers to all the questions related to agricultural information needs and media use pattern of women farmers. Consequently upon this, it may have succeeded in providing answers to

some of the questions, but also raising further questions. It is against this background that this research suggests that:

1. A similar study be carried out in other parts of Nigeria (Western and Eastern agro-ecological zones), with different socio-cultural background to determine other information needs and media use related variables among Nigerian farmers.
2. Gender variations in agricultural information needs and media use pattern of farmers be determined in other parts of Nigeria.
3. A comprehensive content analysis of the various mass media channels (radio, television, newspapers, extension publications) be carried out to determine the relevance of the agricultural content of such media to the actual agricultural information needs of women farmers.
4. A correlational analysis of the agricultural content of the various mass media channels and attitudinal disposition of media practitioners towards agricultural information be carried out as a determinant of agricultural information coverage in Nigeria mass media.
5. A study of development communication strategies that will enhance extension delivery to women farmers. This is with particular reference to a comprehensive analysis of the perspectives from researchers, extension professionals, media proprietors and practitioners and farmers alike (including women farmers).

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APPENDIX 1

Media practitioners disposition towards women farmers

No.	Attitudinal statement	Mean score
1.	It is important to bring women farmers into media focus.	4.4 ^d
2.	The mass media can't provide women farmers with agricultural information.	4.1 ^d
3.	Media practitioners should provide a media forum for women farmers along with their men counterparts.	4.1 ^a
4.	Cultural orientation of women will prevent effective utilization of media messages.	3.4 ^b
5.	There should be special column for women farmers in newspapers.	3.7 ^a
6.	Media practitioners need no women to participate in media programme production.	4.1 ^a
7.	There should be specialised columnists/producers of agricultural programmes for women.	4.0 ^a
8.	Women deserve equal opportunities with men in media activities.	3.9 ^a
9.	Agricultural development efforts will reach out to women adequately without the mass media.	4.1 ^a
10.	Religious principles will affect women participation in media programmes.	2.7 ^b
11.	Women can be used as sources of information to media practitioners.	4.1 ^a
12.	Women farmers should participate in deciding appropriate media programmes.	3.7 ^a
13.	Rural women are best for documentary programmes.	3.7 ^a
14.	Agricultural programmes/content should be decided by women farmers.	2.6 ^b
15.	Women should be granted special interviews before producing agricultural programmes.	3.6 ^a
16.	Visiting women at home to produce media programmes is not necessary	3.3 ^b
17.	Women should always be invited to the studio to participate in media programme production.	3.4 ^b
18.	Women are the viable option for feedback to media programme producers.	2.9 ^b
19.	Women focus group discussion session should be intensified in media production.	3.9 ^a
20.	Media practitioners should visit women in their place of work to produce media programmes.	3.8 ^a

No.	Attitudinal statement	Mean score
21.	Visiting women in their farms for media documentary programmes will enhance their productivity.	4.2 ^a
22.	Agricultural information generation for women cannot be relied upon in mass media programme production.	3.7 ^a
23.	Bringing women to decide the type of programme needed for enhanced agricultural performance is a mockery of media practice.	3.7 ^a
24.	Media practitioners have nothing to lose when women farmers are interviewed in special media programmes.	3.9 ^a
25.	Women should be a major target in audience analysis required for programme design.	3.4 ^b
26.	Evaluation of media performance should be based on the result of continuous assessment of women audience.	3.3 ^b
27.	Input for women cannot influence editorial policy of media organisations.	3.2 ^b
28.	There is no gain in requesting women to discuss farming during media production.	3.9 ^a
29.	Information gathered at the place of work of women is more authentic for media programme.	3.4 ^b
30.	Live show programme with women farmers will enhance the use of mass mediated channels of communication by other women audience.	3.8 ^b

a = Favourable disposition.

b = Unfavourable disposition.

APPENDIX III

UNIVERSITY OF IBADAN
DEPARTMENT OF AGRICULTURAL EXTENSION SERVICES
RESEARCH QUESTIONNAIRE FOR MEDIA PRACTITIONERS

Hello,

I am a research student from the University of Ibadan. I am conducting a survey that will enable me learn about the use of mass media in technology transfer.

To achieve this, I will like to ask you a few questions. Please you are free to express your feelings and frank opinion about each question. All responses will be strictly used for research purpose only.

M.K. YAHAYA

Respondent's Number:
Location of media house/State:
Name of media Organisation:
1. Radio:
2. T.V.:
3. Newspapers:
4. A.B.U. Media Centre:
5. Others (Specify):
Ownership Status: (1) Government owned---- (2) Privately owned
(3) Others (Specify):

SECTION A

Instruction: Read the following statements carefully and check (✓) only one word opposite the statements that best express your agreement and disagreement with each of the statements. That is if you - Strongly Agree (SA); Agree (A); Undecided (U); Disagree (D); Strong Disagree (SD).

	Statements	SA	A	U	D	SD
1.	It is important to bring women farmers into media focus					
2.	The mass media can't provide women farmers with agricultural information.					
3.	Media practitioners should provide a media forum for women farmers along their men counterparts.					
4.	Cultural orientation of women will prevent effective utilization of media messages.					

	Statements	SA	A	U	D	SD
5.	There should be special column for women farmers in newspapers.					
6.	Media practitioners need no women to participate in media programme production.					
7.	There should be specialised columnists/producers of agricultural programmes for women					
8.	Women deserve equal opportunities with men in media activities.					
9.	Agricultural development efforts will reach out to women adequately without mass media.					
10.	Religious principles will affect women participation in media programme.					
11.	Women can be used as source of information to media practitioners.					
12.	Women farmers should participate in deciding appropriate media programmes.					
13.	Rural women are best for documentary programmes.					
14.	Agricultural programmes/content should be decided by women farmers.					
15.	Women should be granted special interviews before producing agricultural programmes.					
16.	Visiting women at home to produce media programmes is not necessary.					
17.	Women should always be invited to the studio to participate in media production.					
18.	Women are the viable option for feedback to media producers.					
19.	Women Focus Group Discussion sessions should be intensified in media production.					
20.	Media practitioners should visit women in their place of work to produce media programmes.					
21.	Visiting women on their farms for media documentary programmes will enhance their production.					
22.	Agricultural information generation from women can not be relied upon in mass media production.					
23.	Bringing women to decide the type of programmes needed for enhanced agricultural performance is a mockery of media practice.					
24.	Media practitioners have nothing to lose when women farmers are interviewed in special media programmes.					
25.	Women should be a major target in audience analysis required for programme design.					

	Statements	SA	A	U	D	SD
26.	Evaluation of media performance should be based on the result of continuous assessment by women audience.					
27.	Input from women can not influence editorial policy of media organisations.					
28.	There is no gain in requesting women to discuss farming during media production.					
29.	Information gathered at the place of work of women is much more authentic for media programme.					
30.	Live studio programme with women farmers will enhance the use of mass mediated channels of communication by other women audience.					

SECTION B

Please provide the required information:

1. Women account for about 70 per cent of food produced in Nigeria. What percentage of media programmes should be dedicated to women farmers in Nigeria media?

(a) Air time for women on radio% (b) Air time for women on TV% (c) Space volume for women in newspaper content%

2. What are the factors that affect your efforts at bringing women to participate in media programmes?

1.
2.
3.
4.
5.

3. Suggest ways in which women can actively participate in media activities:

1.
2.
3.
4.
5.

4. How can media practitioners contribute to improving the status of women farmers:

1.
2.
3.
4.
5.

5. How can media practitioners generate useful data in form of feedback from women audience?

1.
2.
3.
4.
5.

SECTION C

DEMOGRAPHIC DATA

1. Gender: Male; Female

2. Indicate your professional category. (Take only one)

(a) Electronic Media Practitioners only

- | | |
|-----------------------|--------------------------------|
| 1. Programme Producer | (2) Programme Presenter |
| 3. Programmes Editor | (4) Duty Announcer |
| 5. Correspondent | (6) Agricultural Correspondent |

(b) Print Media Practitioners only

- (1) Editorial (2) Reportorial (3) Columnist (4) Features (5) Agricultural Correspondent

3. What is your age: Less than 25 years; 41 - 45; 31 - 35 years; 36 - 40 years; 41 - 45 years; 46 - 50 years.....; Above 50 years

4. Religion: Christianity; Islam; Traditional

5. Marital Status: Single; Married; Divorced; Widowed; Separated

6. Present educational level (check one):

- School Certificate/GCE 'O' Level; National Diploma (ND)
 Higher National Diploma (HND); First Degree; Masters Degree.....
 Others (Specify)

7. Estimated annual income (check one):

- | | | |
|--------------------|--------------------|--------------------|
| Below 10,000 | Below 15,000 | Below 20,000 |
| Below 25,000 | Below 30,000 | Below 35,000 |
| Below 40,000 | Below 45,000 | Below 50,000 |
| Above 50,000 | | |

8. Place of primary assignment: Rural areas only: Urban areas only:

Home background: Rural community:; Urban community:

10. (a) Do you have Agricultural Programme? (Electronic media only).
 Yes: No:
- (b) Do you have agricultural column in your newspapers? (print media only).
 Yes: No:
11. (a) Do you have special programmes for women in development? (Electronic media only)
 Yes: No:
- (b) Do you have special programmes in your newspapers (print media only*?).
 Yes: No:
12. Do you have background in any of the following areas:
 1. Agriculture 2. Sociology 3. Rural Sociology
 4. Women Studies
13. Tenure in media practice.
 Less than 5 years 6 - 10 years 11 - 15 years 16 - 20 years
 21 - 25 years Above 25 years

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FACU

FEDERAL AGRICULTURAL COORDINATING UNIT

Federal Department of Agriculture

Sheda, Km 31, Abuja-Lokoja Highway, P.O. Box 325, Gwagwalada, Abuja FCT
 TEL: (09) 8821032, 8821033, 8821034, (C. Lagos) 091804425, FAX (09) 8821033, TELEX 91494 FACU NG /

Your Ref:

Date: September 5, 1994

Our Ref: FACU/HOU,KTARDA/26

The Programme Manager
 Katsina State A.R.D.P.,
 Katsina...

Dear Sir,

LETTER OF INTRODUCTION

I wish to introduce to you, Mr. Mohammed K. Yahaya, a Ph.D student from the University of Ibadan. He has approached us for some assistance in his on-going research work.

It will be appreciated if you can extend to him all possible assistance that he may need from you during his visit to your project area.

Thank you.

Yours faithfully,

Prof. Ndanusa B. Mijindadi
 Head of Unit

Regional Offices

ASPLA

21 Okoko Crescent
 Off Kaduna Road
 Oshodi
 P.O. Box 12267, Lagos
 Fax to Tel: 01-497660

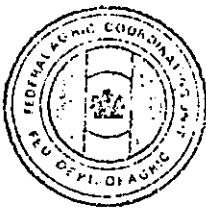
High Court Road
 F.M.B. 1216
 Feroz City
 00521 24366
 24468

68 Onuwa Str
 Independence I. Out
 P.O. Box 176
 Enugu
 00421 338187

3/5 Post
 Kaduna Area
 F.M.B. 07757
 Jos
 0773366

Ungwar Road
 Ankarawa Road
 Ungwar Munchi
 F.M.B. 2277
 Kaduna
 0021 215257

2 Danjuma Zikari Road
 Lokoja
 00561 200373



FACU

FEDERAL AGRICULTURAL COORDINATING UNIT

Federal Department of Agriculture

Sheda, Km 31, Abuja-Lokoja Highway, P.O.Box 325, Gwagwalada, Abuja FCT
 TEL (09) 8821032, 8821033, 8821034, (Cellular) 090804425, FAX (09) 8821033, TELEX 91494 FACU NG.

Your Ref:

Date: September 5, 1994

Our Ref: FACU/HOU/KADP/15

The Programme Manager,
 Kaduna State A.D.P.
 Kaduna.

Dear Sir,

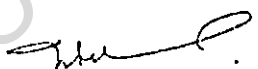
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Thank you.

Yours faithfully,


 Prof. Ndanusa B. Mijindadi
 Head of Unit

Regional Offices

AGPLA

21 Oshodi Crescent
 Off Alimosho Road
 Lagos
 P.O. Box 1247, Ikeja
 Tel. 01-4970089

High Court Road
 P.M.B. 1279
 Benin City
 900220 Benin
 01-22602

U.B. Unaji Str.
 Independence C. Out
 P.O. Box 1166
 Ibadan
 047-328167

Jos Road
 Bukuru Area
 F.M.R. 02707
 Jos
 01-16946

Ungwar Area
 Fashola Road
 Ungwar Market
 P.M.B. 2277
 Fashola
 01-15273

2 Danesh Zetan Road
 Lokoja
 066-23373

Supporting ADPs To meet Farmers Needs

4.

House Type	Number	Type of Roof
1. Plastered and Painted		
2. Plastered only		
3. Mud houses		
4. Huts		

Type of Roof Key

1. Cement and decking
2. Corrugated roofing sheets and complete ceiling
3. Corrugated roofing sheets only
4. Mud Decking only
5. Grass and Sorghum stick and bamboo
6. Stick only.

5. Provide appropriate information about the interior decoration of your room.
Furniture - check (✓) as appropriate and indicate the number.

Furniture types	(✓)	Number
1. Cushion round foam chairs/central table/dinning table/central table		
2. Cushion/foam chairs/central table		
3. Cushion/spring/foam chairs		
4. Wooden chair(s) only		
5. Rug		
6. Plastic carpet		
7. Floor mat		

6. Bed dressing (check (✓) as appropriate)

1. Bed set (bed/cupboard/standing mirror/chairs/pillows)	
2. Large family bed/thick mattress/6-10 pillows	
3. Medium size cabinet bed/mattress/pillow	
4. Spring Iron bed/mattress/pillow	
5. Spring Iron bed/mat/pillow	
6. Bamboo stick bed/mat	
7. Mat only on bare floor/pillow	

7. Please indicate the type of plates displayed on the cupboard (check (✓) as appropriate.

Type of plates	(✓)	Number
1. Stainless plates		
2. Breakable plates		
3. Ceramic plates		
4. Aluminium plates		
5. Plastic plates		
6. Gold plated spoons		
7. Silver plated spoons		
8. Metal spoons		
9. Calabash utensils		
10. Clay mould utensils		

8. Please indicate the type of cloth boxes in your room. Check (✓) as appropriate

Type of Box	(✓)	Number
1. Suit case: a) Echolac		
2. b) Port Manteau		
3. Skin bags		
4. Metal bag		
5. Wooden box		
6. Weaved rafia bag		

9. Indicate the type of jewels you have in your possession.

Jewel type	Gold Plated	Number	Silver plated	Number	Ordinary type	Number
1. Wrist watch						
2. Necklace						
3. Earring						
4. Bracelet						
5. Finger ring						
6. Nose pin						

10. Possession of items. (Please indicate functional items only)

Items	Number available now
1. Milling machines	
2. Kerosine stove	
3. Gas lamp	
4. Electronic gas cooker	
5. Book	
6. Radio	
7. Television	
8. Video Cassette Player	
9. Tape/Cassette Player	
10. Tractor	
11. Ox-plough	
12. Spade/Shovels	
13. Diggers	
14. Hoes	
15. Watering Cans	
16. Ox-cart	
17. Taxi-cab	
18. Truck/Lorry/Pick-up Van	
19. Private Car	
20. Motorcycle	
21. Bicycle	
22. Sewing Machine: (a) Manual (b) Electric	
23. Cloth weaver	
24. Cotton spinner	
25. Cups: Breakables (b) Alluminium (c) Plastic	
26. Kettles	
27. Metal buckets	
28. Water basins (pan)	
29. Plastic buckets	
30. Plastic basins	
31. Tray	
32. Torch light	
33. Hurricane Lamp	

14. Does any person assist you in carrying out your farm operations? Yes No

15 If yes, indicate the person from the following list.

1. Husband 2. Male children 3. Female children 4. Male relations 5. Female relations 6. Hired adult labourers 7. Hired children labourers 8. Husband/Children link up with labourers

AGRICULTURAL INFORMATION NEEDS

16. Is there any Agricultural extension agent in your locality? Yes No
 17. Do you obtain agricultural information from the Agricultural Extent Agent? Yes No.
 18. How often do you have discussions about your farming activities with the Extent Agent?
 1. Once a month..... 2. Twice a month 3. Three times a month..... 4. Every week....
 19. What other source of agricultural information are available to you?
 1. Radio..... 2. Television..... 3. Newspaper 4. Women farmers' Group.....
 5. Neighbouring farmers..... 6. Children..... 7. Husband..... 8. ADP Training Programmes.....
 9. Agricultural shows..... 10. Folk singers..... 11. Village/Town Criers/Drums.....
 20. To what extent do you think that farm information provide by these generally meet your needs?

	To a large extent	To some extent	No Extent
1. Radio			
2. Television			
3. Newspapers			
4. Women Farmers' Group			
5. Children			
6. Neighbouring Farmers			
7. Husband			
8. ADP Training Programmes			
9. Agricultural Shows			
10. Folk Singers			
11. Village town criers/drum			

AGRICULTURAL INFORMATION NEEDS INDEX

Indicate the degree to which you need the following agricultural information that will enhance your productivity.

21. TECHNICAL INFORMATION

Items	Degree of Need					
	Very High	High	Mod- rate	Low	Very low	Not at all
1. Weather forecast						
2. Soil management (Degradation and amelioration issues, fertilizers, etc.).						
3. Cropping systems (sole, inter-cropping, agrosilvi culture)						
4. Disease and pest control (pesticides, insecticides) integrated management						
5. Food processing Technique						
6. Crop Storage methods						
7. Livestock feed formulation						
8. Livestock Drug Administration						
9. Processing of animal by-products						
10. Operation of farm machinery						

22. MARKETING INFORMATION

Items	Degree of Need					
	Very High	High	Mod- erate	Low	Very low	Not at all
1 Current market prices						
2 Future market prices						
3 Market Location						
4 Budgeting methods						
5 Credit sources						
6 Procedure for credit procurement						
7 Credit Management						
8 Advantages of selling beyond farm gate						
9 Production timing for profit maximisation						
10 Produce substitution and management						

23. SOCIAL INFORMATION

Items	Degree of Need					
	Very High	High	Mod- erate	Low	Very low	Not at all
1 Cooperative Association						
2 Social Welfare/Rehabilitation programme						
3 Personal Education (Adult literacy or advanced professional training)						
4. Specialised commodities producers association						
5. Agricultural programmes of (a) Radio (b) Television (c) Newspaper (d) Extension bulletins (e) Folk media. (Town criers/Folk singers)						
6. Media Club Association (a) Radio (b) Television						
7. Disaster relief						
8. Community self-help						
9. Community based agricultural practice – Indigenous Knowledge System						
10. Risk Management in Agriculture						

24. LEGAL INFORMATION

Items	Degree of Need					
	Very High	High	Mod- erate	Low	Very low	Not at all
1. Citizen's rights						
2. Land tenure status						
3. Land dispute settlement						
4. Landlord/tenant agreement procedure						
5. Land compensation procedures						
6. Government regulation on environmental protection						
7. Export-Import regulation						
8. Agricultural Insurance						
9. Farming contract agreement						
10. Loan collateral procedures						

MEDIA USE PATTERNS: RADIO

25. Do you own a functional radio? Yes No.....
26. How is it operated?
1. Battery operated..... 2. Electricity operated..... 3. Both.....
27. What station(s) do you listen to frequently?
1.
2.
3.
4.
5.
28. Generally how often do you listen to radio in a week?
1. Once a week..... 2. Twice a week 3. Three times a week 4. Daily.....
29. Which is your favourite radio station?
30. How many hours do you listen to radio in a day?
31. How many days in a week do you listen to this radio station?
1. Once a week..... 2. Twice a week 3. Three times a week 4. Daily.....
32. How many hours do you listen to this radio station per day?
33. Have you ever participated in any radio programme before? Yes No
34. Will you participate in a radio programme if you are invited to do so? Yes No
35. Indicate how often you will like to participate in any of the following radio programmes if you are invited to do so?

Programme	Degree of Participation		
	Regularly	Occasionally	Never
1. Drama series			
2. Agricultural discussions			
3. Religious discussions			
4. Marital affairs			
5. Family Planning			
6. Health discussions			
7. Child care			
8. Cockery			
9. Sports programme			
10. Request programme			
11. Advertisement			
12. General news package			
13. Literacy/Enlightenment programme			
14. Social welfare			
15. Personality interview			

36. Indicate how frequent you do listen to the following programmes and rank according to your preference.

Programme	Listening Frequency							Preference		
	Daily	Weekly	Fort-nightly	Once in three weeks	Once a month	Once in two months	Once in three months	Most preferred	Least preferred	Not preferred
1. Labarun Duniyan										
2. Mukoma Gona										
3. Wargida Barkada aiki										
4. Kiwon Lafiya										
5. Barka da yau										
6. Filin Girki Girki										
7. Noma Karkara										
8. Kusaurara Manoma										
9. Wazin Musulundi										
10. Zabi Sonka										
11. Yara Manyan Gobe										
12. Riga Kafi										
13. Fillin Yan Club										
14. Sanni Makana										
15. Wazin Adini Kirista										
16. Matan baya baya bata										
17. Kida Noma										
18. Jakar Magori										
19. Karatau Sarkin Noma										
20. Asiya san ce										
21. Gaba da mata										
22. Labari wasani										
23. Bamaraya sai raggo										
24. Alladun mu										
25. Fillin Wake Wake										

37. What time do you prefer to listen to agricultural programme

	Specific time
Morning	
Afternoon	
Evening	
Night	

38 What duration would you prefer for the following agricultural programmes?

	15 minutes	30 minutes	45 minutes	60 minutes
1 Mukoma Gona				
2 Kusaurara Manoma				
3 Kidan Noma				
4 Kartau Sarkin Noma				
5 Fillin Girki Girki				

39. Where do you usually listen to the following agricultural programme

	Neighbour's house	Inside my living room	Open parlour	Open Compound	On Farm	Among Copoperative Group
1 Mukoma Gona						
2 Kidan Noma						
3 Kusaurara Manoma						
4 Karta Sarkin Noma						
5 Fillin Girki Girki						

40. Indicate how frequent you do listen to the following agricultural programmes and rank according to your preference.

Agricultural Programme	Frequency of Listening						Preference			
	Daily	Weekly	Fortnightly	Once in three weeks	Once a month	Once in two months	Once in three months	Most Preferred	Least Preferred	Not Preferred
1 Mukoma Gona										
2 Kusaurara Manoma										
3 Kidan Noma										
4 Kartau Sarki Noma										
5 Fillin Girki Girki										

41. With whom do you listen to the following agricultural programmes?

Agricultural Programme	Alone	With my Children	With my Husband	Friends	Neighbours
1 Mukoma Gona					
2 Kusaurara Manoma					
3 Kidan Noma					
4 Kartan Sarkin Noma					
5 Fillin Girki Girki					

42. Do you usually discuss these agricultural radio programmes after you have listened to it?

Yes..... No.....

43. What format of agricultural programme do you prefer?

Drama..... Story..... Singles..... Narration..... Editorial Commentary.....

44. Indicate whether you agree or disagree with the following statements about radio as your source of agricultural information. Strongly Agree (SA); Agree (A); Disagree (D) and Strongly Disagree (SD).

Programme	Listening Frequency							Preference		
	Daily	Wee- kly	For- night- ly	Once in three weeks	Once a month	Once in two months	Once in three months	Most pre- ferred	Least pre- ferred	Not pre- ferred
15 Family Menu										
16 Gidan Kashe Ahu										
17 Weekend Movie										
18 Politics										
19 Musha Kata										
20 Newline										
21. The rich also cry										
22 New Masquerade (Zaburadeiya)										
23 Zaben Sonka										
24 Sports News										

55. What time of the televast would you prefer?

Specific time of the day
Morning
Afternoon
Evening
Night

56. What duration would you prefer for Noma Yanke talauchi programme?

57. Where do you usually watch Noma Yanke talauchi programme?

Alone With my children Together with my husband

Friends Neighbours

58. Do you usually discuss the television programme after watching it?

Yes No

59. Indicate whether you agree or disagree with the following statements about television as your source of agricultural informaion. That is strongly agree (SA); Agree (A); Disagree (D) and Strongly Disagree (SD).

Statement	Rating			
	SA	A	D	SD
1. Agricultural information from the TV are quite helpful				
2. TV programmes should be trusted				
3. It is inconvenient to seek information from the TV				
4. TV programme can fail at anytime				
5. Seeing the animator on TV make TV more convincing				
6. There is always uncertainty about the TV programmes				
7. Agricultural prorammes on TV are close to reality				
8. Agricultural messages from the TV can be relied upon without any doubt				
9. TV programmes fulfil most of the viewers information needs				
10. TV programme producers are sure of immediate feedback from the viewers				
11. Agricultural programmes are not suitable for telecast on TV				
12. Television can convince me to accept new agricultural innovations				
13. Television is meant for only urban dwellers				

Statement	Rating			
14. I can't rely on TV messages				
15. Television agricultural programmes are entertaining				
16. TV agricultural programmes make viewers lazy				
17. Seeing visuals on TV makes it easier to comprehend messages				
18. Agricultural programmes on TV provides practical guides				
19. There is pleasure watching practical demonstration of farming systems on TV				
20. Agricultural programmes are specifically for male farmers only				

60. What problems prevent you from watching television agricultural programme?
For instance, NomaYanke talauchi. Check () as appropriate.

Statement	True	False
1. Telecast time not convenient for me		
2. Lack of functional Tv set		
3. Lack of electricity		
4. Agricultural messages on TV are too difficult to understand		
5. I can't afford a TV		
6. I don't understand the language of telecast		
7. Air time for agricultural too short		
8. Lack of physical contact with idea in question		
9. Too many people band around a TV set any time agricultural programme is on the air		
10. Other programmes are more preferable to agricultural programmes		

NEWSPAPER

61. Do you read newspapers? Yes No

62. How frequent do you read newspapers?

1. Once a week 2. Twice a week 3. Three times a week 4. Four times a week 5. Five times a week 6. Six times a week 7. Daily

63. Indicate the type of Newspaper:- 1. English 2. Vernacular 3. Both

64. How often do you buy newspaper? Daily Weekly Monthly Never buy at all

65. Identify the specific newspapers you read quite often.

1. 2.

3. 4.

5.

66. If you don't read newspaper, supposing you have somebody to interpret the message content to you, will you like it?

Yes No

67. Which of these articles will best appeal to you in a newspaper?

Columns	Appeal
1. Editorial comment	
2. General advertisement	
3. World News	
4. Rural News	
5. Features	
6. Cartoons	
7. Business and Economy	

97. TELEVISION

Factors	Degree of Influence			
	Highly Influential	Influential	Least Influential	Not Influential
1 Message clarity				
2 Message relevance to my needs				
3 Language used				
4 Duration of telecast				
5 Programme continuity				
6 Portability				
7 Affordability				
8 Reliability Companioship				
9 Companioship				
10 Learning New things				

98. NEWSPAPER

Factors	Highly Influential	Influential	Least Influential	Not Influential at all
1 Content clarity				
2 Content relevance to my needs				
3 Language used				
4 Volume of publication				
5 Content coverage continuity				
6 Portability				
7 Affordability				
8 Reliability				
9 Relaxation Companioship				
10 Learning New things				

99. AGRICULTURAL BULLETINS

Factors	Degree of Influence			
	Highly Influential	Influential	Least Influential	Not Influential at all
1 Content clarity				
2 Content relevance				
3 Language used				
4 Volume of publication				
5 Content coverage continuity				
6 Portability				
7 Affordability				
8 Reliability				
9 Research/Curiosity				
10 Learning New things				

100. FOLK MEDIA (FOLK MUSIC/TOWN CRIERS /DRUMS/PRAISE-SINGERS)

Factors	Degree of Influence			
	Highly Influential	Influential	Least Influential	Not Influential
1 Message clarity				
2 Message relevance to my needs				
3 Language used				
4 Duration of activity				
5 Message continuity				
6 Portability/Mobility/Distance				
7 Affordability of service				
8 Reliability				
9 Relaxation/Entertainment				
10 Learning new things				

DEMOGRAPHIC

101. Native Language:
102. Age (Check (√) as appropriate)
 20-25 years 25-30 years 31-35 years 36-40 years 41-45 years
 46-50 years 51-55 years 56-60 years Over 60 years
103. Marital Status: Single Married (Mono) Married (Polygamous)
 Divorced Widowed
104. Marital position: The only wife First wife Second wife Third wife
 Fourth wife
105. Number of children
106. Educational Status: No Formal Education Koranic Education Primary School Not
 completed Primary School completed Senior Secondary not completed
 Secondary School education Tertiary institutions (College of Education, Nursing, Polytec-
 hnic University Others (specify):
107. Home background: Rural Urban
108. Residence Status: Native Non-native and married to a native Native and married to a
 native Non-native and married to a non-native
109. Religion: Islam Christianity Traditional Others (specify):
110. Land Ownership Status: Own a personal land Land tenant Family land dependant .
 Husband land dependant
111. Indicate your major source of income: Crop farming Livestock rearing Food crop
 processing Crop and Livestock farming Marketing agricultural produce Petty
 trading Goldsmithing Cloth weaving Dying Poetry Cap
 weaving Knitting Crafts Snack making
112. Indicate your secondary source of income: Crop farming Livestock rearing Food
 crop processing Petty trading Goldsmithing Cloth weaving Dying
 Poetry Cap weaving Knitting Crafts Snack making None
113. Seclusion Status: In pudah by choice In pudah according to husband's desire Not in
 pudah by choice Not in pudah according to husband's desire Pudah is not applicable to me

114. Indicate your literacy level.

Language	Read		Write		Speak	
	Fluently	Fairly	Fluently	Fairly	Fluently	Fairly
1 English						
2						
3						
4						
5						
6						
7						
8						

115 For how many years have you been farming?.....

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WISE FARMERS FOLLOW THE ADVICE
OF THEIR EXTENSION WORKERS



NOMA SAI DA TAKI

SA TAKI A GONAR AUDUGARKA



MANOMIN KWARAI YA KAN BI SHAWARAR
MALAMIN GONA