Dissertation By

OLANIYAN,

OLANIKE FASILAT

DEPARTMENT OF AGRICULTURAL EXTENSION AND RURAL SOCIOLOGY, FACULTY OF AGRICULTURE, OBAFEMI AWOLOWO UNIVERSITY, ILE-IFE, NIGERIA.

Factors Influencing Adoption Behaviour of Women Farmers in Rural Areas of Oke-Ogun in Oyo State: A case study of improved Cassava Varieties. Adoption of Improved Cassava Varieties by Women, Farmers in Rural Areas of Oke-Ogun, Oyo State.

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FACTORS INFLUENCING ADOPTION BEHAVIOUR OF WOMEN FARMERS IN RURAL AREAS OF OKE-OGUN IN OYO STATE: A CASE STUDY OF IMPROVED CASSAVA VARIETIES. (ADOPTION OF IMPROVED CASSAVA VARIETIES BY WOMEN) FARMERS IN RURAL AREAS OF OKE-OGUN, OYO STATE).

BY

OLANIYAN, OLANIKE FASILAT
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CERTIFICATION

This research thesis, written by OLANIYAN Olanike Fasilat has been read, approved and adjudged to meet part of the requirements for the award of Master of Philosophy in Agricultural Extension and Rural Sociology of the Obafemi Awolowo University, Ile-Ife, Nigeria.

(H.O.D.)

Professor J.A. Alao (Deceased)

Thesis Supervisor

(H.O.D.)

Professor J.A. Alao (Deceased)

Chief Examiner

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DEDICATION

This work is dedicated to my Heavenly Father, His Son Jesus Christ, and the Holy Spirit.

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ABSTRACT

The major objective of this study is to undertake an analysis of the adoption behaviour of women farmers in the rural areas of Oke-Ogun of Oyo State.

Three Local Government Areas were purposively selected out of eleven in the area of study. A total of one-hundred and fifty-five women farmers were randomly selected proportional to the number of women-farmers in each of the selected farming communities in each Local Government Area. Structured interview schedules duly pretested before use were employed in collecting information needed from the respondents. Simple descriptive statistical tools such as frequency count, percentage, mean, bar and pie-charts, and graph were made used of in analysing the data collected from the respondents. Appropriate statistical tools such as chi-square, regression analysis, multiple regression, and correlation analysis were used in testing the null hypotheses set for the study.

The results of this study showed significant relationships between adoption of improved cassava varieties and membership of co-operative society, perceived characteristics of the improved cassava varieties, and situational/community factors(decision making at individual level and leadership patterns). Furthermore inter-correlation relationships were found to exist between age and marital status ($r = 0.215$); and number of children assisting them in farm work ($r = 0.195$); number of children assisting in farm works and membership of co-operative society ($r = 0.373$); sources of credit and number of children assisting in farm works ($r = 0.270$); sources of credit and membership of co-operative societies ($r = 0.675$). A significant but

negative relationship was found between age and number of years spent in formal schooling and age (r = -0.194); and marital status(r =-0.194). The study also showed that demographic and socio-economic characteristics of women farmers, such as; number of children assisting in farm work, number of years of education, membership of cooperative societies, sources of credit, income, and sources of acquiring farm land were positively related to their adoption of improved cassava varieties. A very high level of awareness (100%) and adoption (90.3%) of improved cassava varieties was found among the women farmers in the study area.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND SITUATION

The economy of a developing country like Nigeria, depends largely on the level of development of its agricultural sector. This implies that the more developed the agricultural sector of Nigeria is, the more the development in its economy. This logical expression confirms agriculture as a foundation for development of the nation. Hence for the economy of any developing nation to withstand and survive the wind of economic depression, the foundation (agricultural sector) must be strongly built.

Agriculture as a sector in Nigeria's economy is like a tripod-stand, supporting and reinforcing the economy as a whole. The first leg of the tripod-stand represents the significance of agriculture as a source of food for the whole nation. The second leg represents the position of agriculture as a source of raw-materials to the agro-based industries, while the third leg stands for agricultural sector as a source of foreign exchange. This means that anything that happens to the agricultural sector of Nigeria will definitely affect the food supply, the industrial sector, and the foreign exchange earning of the nation.

The need to develop agriculture so as to bring about an overall development in the economy has been documented in Nigeria as far back as 1893 when the department of Botanical Research was established at Olokemeji in the former Western Nigeria, a botanical garden, for basic agricultural research. Since then, the history of Nigeria has recorded several agricultural programmes and projects. Some of these are the Farm Settlement schemes, Farm Institutes Agricultural Development

Corporation Project (ADC), the National Accelerated Food Production Project (NAFPP) in 1972, the establishment of the Nigerian Agricultural and Co-operative Bank (NACB) in 1973, Agricultural Development Project (ADPs) started in 1975, the Operation Feed the Nation (OFN) launched in 1976, River Basin Development Authority (RBDA) launched in 1976, the establishment of Commodity Boards in 1977, Agricultural Credit Guarantee Schemes (ACGs) in 1977, the promulgation of the Land Use Decree in 1978, Green Revolution Programme (GRP) launched in 1979.

Among agricultural programmes that targeted women are the Better Life Programme for rural women instituted in 1987 by the then First Lady, Maryam Babangida; Women In Agriculture (WIA) Programme of the Agricultural Development Projects(ADPs) set up by the Federal Agricultural Coordinating Unit (FACU) in 1991 and the Family Support Programme (FSP) instituted in 1994 by Mrs. Maryam Abacha, the current First Lady of Nigeria. The central aim of all these women programme is to bring about improvement in the standard of living of women as well as in their level of agricultural production, so as to bring about overall development of the whole nation, since women play a significant role in the economy of the nation. One of the greatest achievements of many of these programme, is that they have been able to enlighten the Nigerian populace of the importance of women in agricultural development and in the development of the whole national economy as a whole.

Many researchers have come up with the notion that women are indispensable when the issue of developing agriculture and the nation as a whole is involved/concerned. Their participation cut across all agricultural sectors. Bauman (1928), in a review, found that women worked on the farm all the year round

producing food crops while men performed only preplanting tasks that occupy small part of the agricultural sector, and are involved in cash crop production that is mainly market oriented. Pala (1985) reported that women who are more than half the rural population spend more than two thirds of their time in food production. Therefore, if women are seen to be occupying a very strategic position in these agricultural enterprise, there is need, then, to investigate their adoption behaviour since adoption is very crucial to the success of any agricultural develpment programme.

1.2 STATEMENT OF THE RESEARCH PROBLEM

The central aim of disseminating any agricultural innovation is to bring about improvement both in the agricultural production and in the general standard of living of the farmers. This aim can be achieved only when such innovation has gained mass adoption among the target audience, showing the centrality of adoption to the evaluation of any innovation. Mass adoption or high rate of adoption of any innovation can be enhanced when there is first-hand knowledge about factors that can influence the adoption behaviour of the target system before introducing the innovation to them. This in turn would enable the agency of change to take into account all the necessary factors needed to make adoption of the innovation a success. Women farmers should be an important target audience for the introduction of agricultural innovations.

Lack of adequate knowledge of factors influencing the adoption behaviour of these women farmers has hindered the success of many of these grandiose and promising agricultural programmes which could have probably brought Nigeria to a level of self sustainance in the production of food and raw materials.

Therefore, the purpose of this study is to identify those factors that influence

adoption behaviour of women farmers in respect to the adoption of improved cassava varieties.

1.3 OBJECTIVES OF THE STUDY

The main objective of this study is to gain an understanding of the adoption behaviour of women farmers in rural areas of Oke-Ogun; Oyo State.

The specific objectives are as follow:-

1. to determine the level of awareness among women farmers in rural areas of Oke-Ogun in Oyo State of the improved cassava varieties.
2. to identify the demographic and socio-economic characteristics of women farmers which influence the adoption of the improved cassava varieties in rural areas of Oke-Ogun in Oyo State.
3. to determine how the perceived characteristic of the improved cassava varieties influence their adoption by women farmers in rural areas of Oke-Ogun in Oyo State.
4. to identify the situational factors influencing adoption of improved cassava varieties by women farmers in rural areas of Oke-Ogun, Oyo State.
5. to assess the level of adoption of the improved cassava varieties among women farmers in rural areas of Oke-Ogun in Oyo State.

1.4 HYPOTHESES OF THE STUDY

The following null hypotheses were set to show the relationships between the dependent and independent variables in the study.

Hypothesis One:

Many research studies have been carried out to determine the relationships between adoption of agricultural innovations and practices and the personal and socio-economic characteristics of the farmers. However, due to gender perculiarities and other factors, some of the outcome of such research studies may not be very much applicable to women farmers. Therefore, there is the need to carry out a separate study on the adoption behaviour of women farmers, hence a null hypothesis that:

There is no significant relationship between selected demographic and socio-economic characteristics of women farmers in rural areas of Oke-Ogun in Oyo-State, namely: age, marital status, number of children assisting in farm work, number of years of formal education,membership of co-operative society, sources of credit, income,method of acquiring farmland, and their adoption of improved cassava varieties.

Hypothesis Two:

The characteristics of innovation are important determining factor for the level of adoption of any agricultural innovation or improved agricultural practice among the target system; hence, the null-hypothesis that:

There is no significant relationship between selected perceived characteristics of improved cassava varieties namely; cheap/economical, relative advantage (higher yield), complexity of the planting mechanism, compatibility with culture, availability, and their adoption by women-farmers in the rural areas of Oke-Ogun in Oyo-state.

Hypothesis Three:

The situational factors or factors of the community wherein an adopter is, may

have influence on their adoption behaviour. Communities differ from one another in many respects, hence the certainty of influence of community factors on adoption behaviour of their members may not be generalized, hence the null hypothesis that:

There is no significant relationship between selected situational or community factors, namely: decision making at individual level, culture, norms, and values, leadership pattern, and adoption of improved cassava varieties by women farmers in rural areas of Oke-Ogun in Oyo-state.

1.5 SIGNIFICANCE OF THE STUDY

The knowledge of the adoption behaviour of the target system is very important for the success of any agricultural innovation introduced to them. Upon this depends the

development of agriculture and the nation's economy in general.

Many of the research studies on adoption, directly or indirectly focus on men-farmers with the neglect of women farmers, who play significant and indispensable roles in agricultural production in Nigeria. Hence the adoption behaviour of women farmers has not been studied.

This study was designed to bring into focus an understanding of the adoption behaviour of women-farmers, particularly in rural areas of Oke-Ogun in Oyo-state through an assessment of the level of adoption of improved cassava varieties.

In summary, information generated from this study should serve as source of data to agricultural agencies and officers about women-farmers. Also the study should contribute to our knowledge in the field of adoption studies and help evolve new strategies to get women to adopt new and improved agricultural practices.

1.6 BASIC ASSUMPTION OF THE STUDY

The basic assumption made for this study are:

1. That the improved cassava varieties are a good examples of agricultural innovations disseminated to women farmers in the area of study;
2. That women farmers have access to sources of information in the study area (Oke-Ogun area of Oyo State).

CHAPTER TWO

LITERATURE REVIEW

The review of literature for this study was carried out under the following: women participation in agricultural production; factors affecting the participation of women in agricultural production; strategies of integrating women in agricultural development programmes in Nigeria; the concept of adoption; constraints to the management and dissemination of agricultural information; some cases of adoption of innovations and improved practices among women; introduction and diffusion of cassava in Nigeria; the improved cassava varieties; traditional processing and utilization of cassava in Africa.

2.01 WOMEN PARTICIPATION IN AGRICULTURAL PRODUCTION

Women participation has been discovered to cut across all sectors of agricultural production. Although, women indispensable and significant role in agricultural production has been misunderstood in some ways. Olawoye (1985) in her studies on Rural Women's role in agricultural production, suggests that the basic cause of this misunderstanding is probably due to overgeneralization.

Women contribute substantially to agricultural production. Olawoye (1985) investigated that 50% of women in Oyo State were involved in planting, 97% in weeding, 85% in harvesting, 91% in transporting, 92% in processing, and 79% in marketing. Njar(1990) observed that Nigerian women are responsible for about 80 percent of all food items produced and sold in different parts of the country. Ritche (1977) in his research work among African women on the involvement of women in the economic activity of Africa, observed that African women are responsible for 70

percent of food production and 50 percent of the domestic food storage in the country.

In some areas in Nigeria, women predominate in agricultural production. Iniodu (1990) observed that in traditional agriculture in Akwa Ibom State of Nigeria, women perform most of the farming operations like production, processing and marketing craft and community services. Olayiwole (1984) revealed that in non-muslim villages of Northern Nigeria, farming was a primary occupation for women. Reports from many researchers have also shown that even muslim women that are normally put in "purdah" in the Northern part of Nigeria, participate in agricultural production by engaging in backyard farming and much more in processing activities of their husbands' farm produce. It was also found that some of these women in "purdah" have their personal farms that are normally taking care of by their husbands and male children.

The mass rural-urban migration has enhanced female headed farms and households in Nigeria. As observed by Egunjobi (1991) that the semi-permanent migration of men had in many cases promoted women to the headship of household in some of the rural areas. Hence, Nigerian women now have more inputs into decisions regarding their families, especially family farming enterprises, as supported by Patel and Anthonio (1973).

Gender analysis shows that in addition to the activities that women farmers carry out in agricultural production sphere, they are at the same time heavily involved in reproductive/ domestic roles.

Many researchers have found that women farmers predominate in many target audience of many agricultural programmes, hence the need to understand their adoption behaviour.

2.02 FACTORS AFFECTING THE PARTICIPATION OF WOMEN IN AGRICULTURAL PRODUCTION IN NIGERIA.

It is a fact beyond doubt that women participate immensely and that all through agricultural sectors in Nigeria. However their participation have been hindered from yielding expected results by some factors. Lack of access to productive resources like land, credit, agricultural inputs (fertilizers, improved seeds, agro-chemicals and planting materials), agricultural extension services and appropriate technology has been identified as a major constraint to women's contribution to agriculture.

Land, whether it is inherited, alloted, purchased or seized, is the most basic resource of agricultural production. In many parts of Nigeria, women have been disadvantaged of having free access to land due to prevailent customary laws about inheritance of landed properties in such areas, especially in Yorubaland.

Lack of regular and dependable source of credit has also been hindering the progress of women farmers in Nigeria. Akande and Igben (1984) reported that access to credit is the ultimate of agricultural development. Women farmers are limited to personal, relative, husbands, and attimes co-operative sources of credit, while obtainance of credit from banks or government institutions is a fact far from reality to them. Hence, many women have been limited to subsistence and small scale of farming enterprises. Babalola and Dennis (1988) support this in their report that "the economic position of women and their access to autonomous income depend upon their right to land, the labor they are expected to provide for "male crops", and the level of their control over the returns from any marketed surplus".

Also, women are not having free access to agricultural inputs such as fertilizer, improved seeds, agro-chemicals, planting materials and appropriate technology, which could have brought significant improvement to their agricultural production, and serve as a source of encouragement to them.

Although several research works have confirmed it that women play indispensable and significant roles in agricultural production, but, ironically, many studies also show that women farmers are least likely to benefit from agricultural extension services and technologies that could improve their production (Afonja and Aina, 1995). Swanson, et al. (1984) also affirmed that women have little or no contact with extension services. The probable reason for this may be the male dominated staffing of extension services, which is not at the favour of the female farmers.

Hence, in order to encourage a successful participation of women in agricultural production and development programmes in Nigeria, all these hinderances must be rightly tackled.

2.03 STRATEGIES OF INTEGRATING WOMEN INTO AGRICULTURAL DEVELOPMENT PROGRAMMES IN NIGERIA

There are various schools of thought as to the best strategy to use in order to successfully integrate women to agricultural development projects. One school of thought believe in having separate programmes specifically for women, and the other support integration within a larger development programme and project involving both men and women. Each of these schools of thought has their strong as well as weak points. The third school of thought is based on the development strategy of equity. For both short and long term meaningful development, the authors believe that strong emphasis should be placed on the conflictive strategy requiring structural changes in institutions for the attainment of gender social and economic equality. This school of thought further questions the usefulness of consensual strategy for integrating women in the development process; that "to what extent will enhancing women's ability to produce food crops increase their economic independence if the growing commercialization of agriculture continues into subsistence cropping?"

On the one hand, it is true that some degree of structural change is needed to incorporate or address class and gender issues in the development process, but on the other hand, one should not forget that certain institutional practices (the right of women to inherit land, the status of women in society etc.) have deep cultural roots in most African societies, especially in Nigeria. The conflicting strategy has the potential to generate social unrest in male-dominated societies (common in Africa) where women are regarded as sub-ordinates, hence it should be approached with caution and used only when necessary to prevent the alienation of women and destabilization of rural households.

Another system of integrating women into agricultural development projects is the one used in Malawi project (Spring, 1985) which is without changing of values or attitudes about women place in the society. In this project men were used without their knowing it in the decision-making process to extend and provide adequate extension services lacking to women farmers. This was achieved without structural changes in the extension services such as operating separate extension services for men and women farmers, or employing more women extensionists; it worked by manipulating the mentality of male agents. This strategy does not give room for any kind of unrest that might developed from sex segregation, for both male and female farmers were involved although women farmers were indirectly targeted. The success of integrating women into agricultural development depends largely on the system adopted. The choice of which system to be adopted by any society would be based on the cultural norms and value about sex segregation and the extent of recognition of the importance of each sex in the society. A wrong choice of the system or strategy of integration can bring outright failure to the programme and the end result would be worse than not integrating these women at all.

The legal integration of women into agricultural development in Nigeria came to focus in 1991, when the Federal Ministry of Agriculture set up a Women In Agriculture (WIA) unit within its Federal Agricultural Coordinating Unit (FACU) which the National Council on Agriculture (NCA) had in 1989 mandated the Agricultural Development Projects (ADPs) to set up. The strategy employed by the Nigerian government in integrating women into agricultural development is in agreement with the first school of thought mentioned before, which believes that having separate programmes specifically for women is the best. The WIA programme is basically planned to primarily focus on actual production activities of women; within the confines of the wide diversity of economic, cultural, ethnic, and religions dispensations within Nigeria, and to ensure that women do well what they know how to do. All the inputs of this programme to achieve their aims have not brought the expected results, probably because of lack of adequate knowledge of the adoption behaviour of these target audience: the women farmers.

2.04 THE CONCEPT OF ADOPTION:

Adoption of agricultural innovations and improved practices has witnessed a lot of investigations from many researchers, hence different but similar definitions have been given to it. Rogers (1965) defined adoption as the mental process through which an individual passes from first hearing about an innovation to final adoption.

However, adoption is the decision that an individual makes to continue the full use of a new idea or improved practice after he might have successfully passed through many decision making stages. The generally accepted stages in adoption process is that propounded by Rogers (1965), which is a five stage process consisting of: awareness stage (when an individual first heard about an innovation and improved practices); Interest stage (an individual starts having interest in the innovation, hence

gathering more information about it); evaluation stage (an individual start judging the value of the innovation mentally); trial (he puts such a new idea on practical judgement, normally on small scale); and adoption stage (when an individual decides to continue the full use of such an innovation). In Nigeria situation, 3 stages are generally conspicuous: (1) awareness stage, (2) trial-evaluation stage, and (3) adoption stage. The process by which an innovation and improved practice spread from its source of invention to its ultimate users over a period of time is called Diffusion.

Onazi (1973) stated that the process of adoption of innovations and improved practices, and the transfer of improved and modern technology to the predominantly farming populace of this country is one of the greatest challenges facing agricultural scientists and extension service in Nigeria. Out of innovations and improved practices from agricultural scientists and extension services in Nigeria, many reached the farmers, few are adopted initially, while very few are eventually adopted with many discontinued. The reason for this disappointing result may not be far fetched from the lack of adequate consideration to factors influencing the adoption, behaviour of target audience before introducing innovations and improved practices to them. Pampel and Van Es (1977) in their research on "Environmental Quality and Issues of Adoption" came out with the following three explanations of adoption behaviour:

(1) Profitability orientation: this states that adoption of new practices is determined by the farmers orientation toward profit. That is farmers that are most profit oriented will adopt new practices faster and more than the less profit oriented ones.

(2) Psychological innovations: states that the type of practice is not as important as the orientation of the farmer towards new ideas. Therefore, farmer with high psychological innovativeness will have high willingness to change, to try

new ideas, hence to adopt new practices.

(3) Farming orientation: this is the perception or how a farmer view farming enterprise: as a business venture or as a way of life. The business oriented farmer will be inclined to use practices which are part of his farm business and always eager to try new ideas in search of improvement for hsi farming enterprise, hence he will be closely involved in the agro-business commercial-marketing system. On the other hand, one who views farming as a way of life will be motivated more by normative concerns of social responsibility and attachment to farming.

Alao (1971) in his study on Nigerian farmers, also established the following variables as predictive of adoption behaviour among Nigerian farmers.

(1) The level of awareness of the new agricultural practices.

(2) The size of farm operation.

(3) Level of social participation.

(4) Frequent contact between the farmer and the Agricultural Extension Agents, and

(5) Literacy (i.e. ability to read and write).

2.05 CONSTRAINTS TO THE MANAGEMENT AND DISSEMINATION OF AGRICULTURAL INFORMATION

Report from a regional workshop in West Africa held at Kairaba Beach Hotel from May 11th to 15th, 1993, at Banjul (the Gambia) identified the following as the major constraints in the region to managing and disseminating agricultural information:

(1) Isolation of agricultural researchers due to lack of support for attending scientific meetings, study tours, and technical visits to advanced agricultural research centres.

(2) Lack of adequate modern equipment and facilities for rapid processing and dissemination of agricultural information.

(3) Poorly equipped library and documentation centres in many agricultural establishments.

(4) Lack of adequate budgetary allocations for library acquisitions and for sustained subscriptions to key agricultural journals.

(5) Absence of functional regional agricultural information networks which would promote and encourage the exchange of information, experience, and expertise.

(6) Inadequately trained library and documentation staff.

(7) Poorly developed rural radio and television services; where they have been established, agricultural extension workers do not use the services efficiently for the dissemination of agricultural information at grass roots level.

(8) Serious lack of expertise in sustainable publication and management of agricultural journals.

(9) Difficulties in the free flow of agricultural information, primarily because of language barriers.

(10) Weakness in the operation of agricultural extension system because of insufficient support from national

governments; constraining the free flow of agricultural information at grass-root level. The list of these constraints reproduced here from the report of the meeting, reflects the situation in some Africa countries, especially in Nigeria.

2.06 SOME CASES OF ADOPTION OF INNOVATIONS AND IMPROVED PRACTICES AMONG WOMEN

Apart from the characteristics of innovation and the factors, culture, norms and values of the society, compatibility of the innovation with the felt need, and the level of literacy among women have great influence on their adoption behaviour. This will be further explained and buttressed by the following cases of adoption.

Family planning ,through the use of contraceptives, was introduced to rural women in Kenya. This new idea did not gain popular adoption among these rural women due to the existing norms and values in that society, such as naming of children after their late relatives, preference for sons, the view of large family as an asset, fear of losing their offspring through the prevailing death of children in the society. This shows the impact of the existing norms and values on adoption of innovation by women. Hence, for an innovation to gain popular adoption among women, it has to, above all other things, be compatible with the existing norms and values in that society, because women have stronger holds on norms and values more than men.

In 1976, two American housewives from Arizon Sherry Cola and Barbara Kerr, perfected a new solar oven. The cooker is simple, practical, reliable, easily reproducible, and relatively cheap. In the early 1980s, the FAO (Food and Agriculture Organisation) discovered that this indigenous stove could economise power, money, and time, then bought the patent from these women with the aim of distributing it to various developing countries and several south American countries. Report of popular adoption was given by women in Khartoum, Somalia, and other areas where this stove was disseminated to. It is apparent that apart from the favourable characteristics of this innovation, it also met the felt need of these women.

Similar cases of adoption of agric-innovations among women farmers have been recorded in different parts of Nigeria. For example: the unexpected outcome of the high yielding yellow maize and maize sheller introduced to group of farmers under the university of Ife's Isoya Rural Development Project in 1976 was turned down due to resulting incompatibility with values and part experiences of the women (wives) in the area. Two imbalances arose due to the fact that, before the introduction of high yielding yellow maize variety, when yields had been low, women were normally employed free by their husbands or for a fee by other farmers, this priviledge was no more there. Also women were displaced from maize marketing because of increase in yield of maize which has rendered the crop readily available throughout the year.

The maize sheller was eventually discontinued by farmers in Isoya villages because the pedalling system of operating it, assumes a woman riding bicycle, which is against the culture of the people.

The lack of mass adoption of some modern technologies could be traced to the fact that in many cases transfer of such technologies have been centred on the men folk to the neglect of the women folk who play a dominant role in food production (Okeriji, 1988 ; Olayide and Atobatele, 1980 ; Kwatia, 1986).

Women are very good instruments in diffusing new ideas because of their nature and social capacity in terms of interaction with other people. They are always of high cosmopoliteness than men, despite their busy schedule as wives, and mothers at home, full-time farmers or government paid workers, etc. In order to achieve the objective of self-sufficiency in production of food and industrial raw materials through rural development strategy, women farmers' should be in primary and central position of being used as "Agents", "Medium", and "Target" for any rural development programme (Alao et al , 1996).

2.07 INTRODUCTION AND DIFFUSION OF CASSAVA (Manihot esculenta(L) Crantz) IN NIGERIA

Cassava was introduced into Africa in the 16th century, and since then it has spread throughout the whole continent with higher concentration of cultivation in the humid tropical regions. Africa produces 48 million tonnes of cassava annually, which translates into an estimated average energy of more than 200 calories per her per day for 200 million people.

All over Africa, cassava has become one of the major staple food crops consumed in various forms such as gari, fufu, lafun, starch, cassava-snacks, etc. A staple food crop is that which accounts for more than 200 calories per day in the diet of an individual (IITA, 1988). The Food and Agriculture Organization of the United Nations (FAO, 1970), estimated that from 1964-66, cassava accounted for more than 300 calories per day in the diet of an average individual in Nigeria as a whole. Nweke et al (1922a) estimated that cassava accounted for more than 800 calories per day in the diet of an individual among some population groups of south eastern Nigeria. In some areas in Nigeria, cassava has taken over from other staple food crops like yam because of some relative advantages it has over such.

The growth of cassava production and its diffusion in Nigeria are attributed to the catalytic effect of freed Brazilian slaves who began to return to the area around 1800. Igbo migration was an important diffusion mechanism in the eastern states of Nigeria.

Cassava was at first used as a medicine in Benin as a cure for tuberculosis. Slaves that returned from the Brazil from the late century onwards were certainly also instrumental in the spread of cassava.

Urban lifestyles and the growth of a working class in the Lagos area increased demand and local peoples emulated the habits of the Afro-Brazilians. By the mid 19th century, Badagry, Abeokuta, Lagos and Ijebu were centers of production. By 1960, the crop had spread to Ibadan, and the area of production slowly increasing. Early travel accounts have shown that cassava was known in northern Nigeria in 1850 through central Africa confluence until after World War I, and was still only of limited importance in Oyo State in 1951-1952. The rapid spread of cassava in Nigeria occured during the 20th century (Carter, et al., 1995).

2.08 THE IMPROVED CASSAVA VARIETIES

The improved cassava varieties includes; TMS 30572, TMS 30555 and TMS 4(2) 1425, developed by International Institute of Tropical Agriculture (IITA). For this study, these three are grouped together as improved cassava varieties because it is very difficult for the farmers to differentiate one from the other. These improved varieties are of high relative advantage over the old varieties.

Some of these relative advantages are; adaptability to wider range of soil, ability to withstand longer drought etc. have made cassava a dependable source of income to many farmers. According to Berry, (1993), cassava is well known to be tolerant to drought, poor soils and irregular labour requirement. The local varieties are susceptible to pest - grasshoppers, birds, rodents, monkeys, pests and diseases like cassava mealybug (CMB), cassava green mite (CGM), African cassava mosaic virus (ACMV), and cassava bacterial blight (CBB) which have been devastating cassava crops till 1971, when IITA commenced breeding for resistance against these diseases and also for high root yield. In 1974, IITA and Shell B.P. Petroleum Development Company of Nigeria started On-Farm testing and distribution of promising clones

selected for resistance to the common diseases and for high yield. Other non-governmental organizations involved in the production and distribution of improved cassava varieties are; Texaco Agro-Industries (Nigeria) Limited (Texagari), Nigerian Agip Oil Company Limited. Others are Nigeria Cassava Growers' Association, Starch Millers Association, Schools, Universities and Church groups.

The improved cassava varieties have been adopted widely all over Nigeria. In a survey conducted in the humid zone of southwest Nigeria by a team comprising a cassava agronomist and an IITA economist, it was observed that 80% of cassava land was planted with improved varieties in 1987 (Nweke et al, 1988). In the subhumid zone of southeast Nigeria, Ezedinma (1988) estimated that 29% of cassava land area was planted with improved cassava varieties. According to Akoroda et al (1989), 54% of the farmers in Oyo State, southwest Nigeria within the subhumid zone planted IITA improved cassava varieties in 63% of their cassava land area, while about 40% of land area was allocated to improved varieties in the non-humid zone.

2.09 TRADITIONAL PROCESSING AND UTILIZATION OF CASSAVA IN AFRICA

Cassava is processed into many forms (such as "gari", "Lafun", "fufu", starch, etc) and used in diverse ways according to local custom and preference throughout Africa to provide carbohydrate part of the diet.

The various traditional cassava processing methods in Africa were believed to have originated in tropical America, particularly north eastern Brazil, and/or have been adapted from indigenous techniques for processing yams.

As shown in Fig. 1, the traditional processing methods comprise of combination

of activities such as peeling, boiling, steaming, slicing, grating, soaking or steeping, fermenting, pounding, roasting, pressing, drying, and milling.

The products from traditional processing methods are contaminated with undesirable organisms and extraneous matter. Some of the products are therefore not hygienic and so of poor market quality.

Better processing methods can improve lifestyle by ensuring higher processing efficiency, saving labor, reducing drudgery and improving the quality of products. It can make more spare time available to women for other family duties and caring for their children, thus improving their health. Also slight changes in equipment can help save fuel and lessen the discomfort, health hazard, and drudgery for the women operating it. The economic success of any future commercial development of cassava processing will depend upon the adaptability of each processing stage to mechanization (Hahn, 1997).

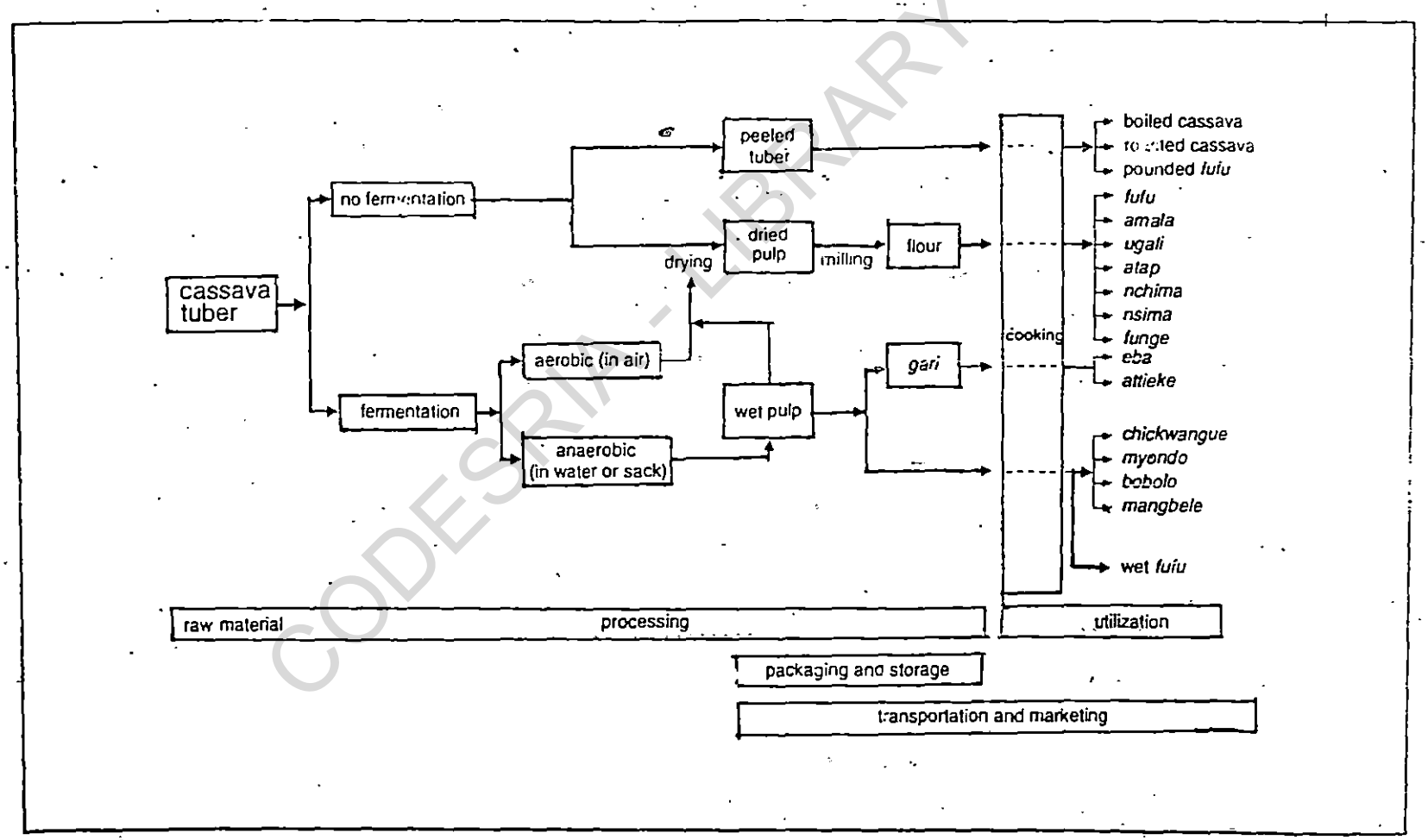


Figure 1. Traditional cassava processing and utilization in Africa

Source: Hahn S. K. (1997) - Traditional processing and Utilization of Cassava in Africa.

2.10 THE THEORETICAL FRAME WORK

The theoretical model employed as framework and theoretical background for this study derives its base from the model of adoption by an individual, as employed by Emery and Oeser (1958).

The decision of an individual (adoption or rejection) after he gets to know about an innovation or improved ideas is being influenced by many factors, which were grouped into two categories, namely: (1) The Endogenous factors and (2) The Exogenous factors. Hence, the theoretical model for this study is made up of three sections viz the endogenous factors, the exogenous factors, and the adoption behavior of a woman farmer.

1. The Endogenous factors: these are internal factors that influence the decision of an individual woman farmer after her awareness about agricultural innovation on improved practices. These factors originated from within and individual adopter. They are demographic and socio-economic characteristics of individual adopter. The demographic characteristics consists of the age, marital status , number of children assisting in farm work, and number of years of formal education of a women farmer. On the other hand, socio-economic characteristics include membership of cooperative societies, sources of credit, income, .. of acquiring farm land cosmopolitans, opinion leadership perception of new ideas and venturesomeness, security anxiety, mental ability and conceptual skill and social status of a woman farmer. These characteristics(demographic and socio-economic) vary from one woman farmer to another. They are personal characteristics that make a woman farmer to be an

innovator and another one to be a laggard. These characteristics have strong influence on the adoption behaviour of individual woman farmer. They suggested why an innovation adopted by some women farmers, is rejected by others in the same social system.

2. The Exogenous Factors: these are the external factors of influence on the decision of women farmers to adopt or not an innovation. These factors originated from the situations and circumstances surrounding a woman farmer in a society. These external or exogenous factors include:

(i) factors of the society or community where a woman farmer is dwelling;

(ii) the characteristics of innovation;

(iii) the characteristics of the Extension Agent, and

(iv) sources of agricultural information available to the woman farmer.

The factors of the society or community where a woman farmer dwells, otherwise called situational or community factors, have great influence on her adoption behavioural tendency. These factors are: decision making at individual group, and community level, culture, norms and value, leadership patterns, community structure, literacy level, level of education, and social participation of the community. an individual person dwelling in a community represents a unit at that community influence the adoption behaviour of individual dwelling in that community. Hence, the difference in the rate of adoption of an innovation from one community to the other.

The characteristics of an innovation introduced to women farmers could determine what their adoption behaviour would be. These characteristics include:

cost, relative advantage, complexity, compatibility, availability, divisibility, and cost-profitability. These characteristics have influence on the adoption decision of an adopter.

Also, the characteristics of the extension agent introducing innovation to women farmers may influence their adoption behaviour. Demographic and socio-economic characteristics of the change agent such as level of education, communication ability, social status, etc. may determine to a great extent whether an innovation would be adopted or rejected by the target audience or an individual adopter.

Sources of information available to women farmers also have influence on their adoption behavioural tendency. These include mass media, neighbours, friends and relatives, government agricultural agencies and salesmen and dealers.

3. The Adoption Behaviour: this is the reaction of an individual towards an innovation or improved practice based on both internal (endogenous) and external (exogenous) factors surrounding such an individual. A woman farmer that is aware of an innovation may decide to reject or adopt based on the stability of these endogenous and exogenous factors of influence. Adoption behaviour, although is a personal decision, has many outside sources of influencing that may predict its direction.

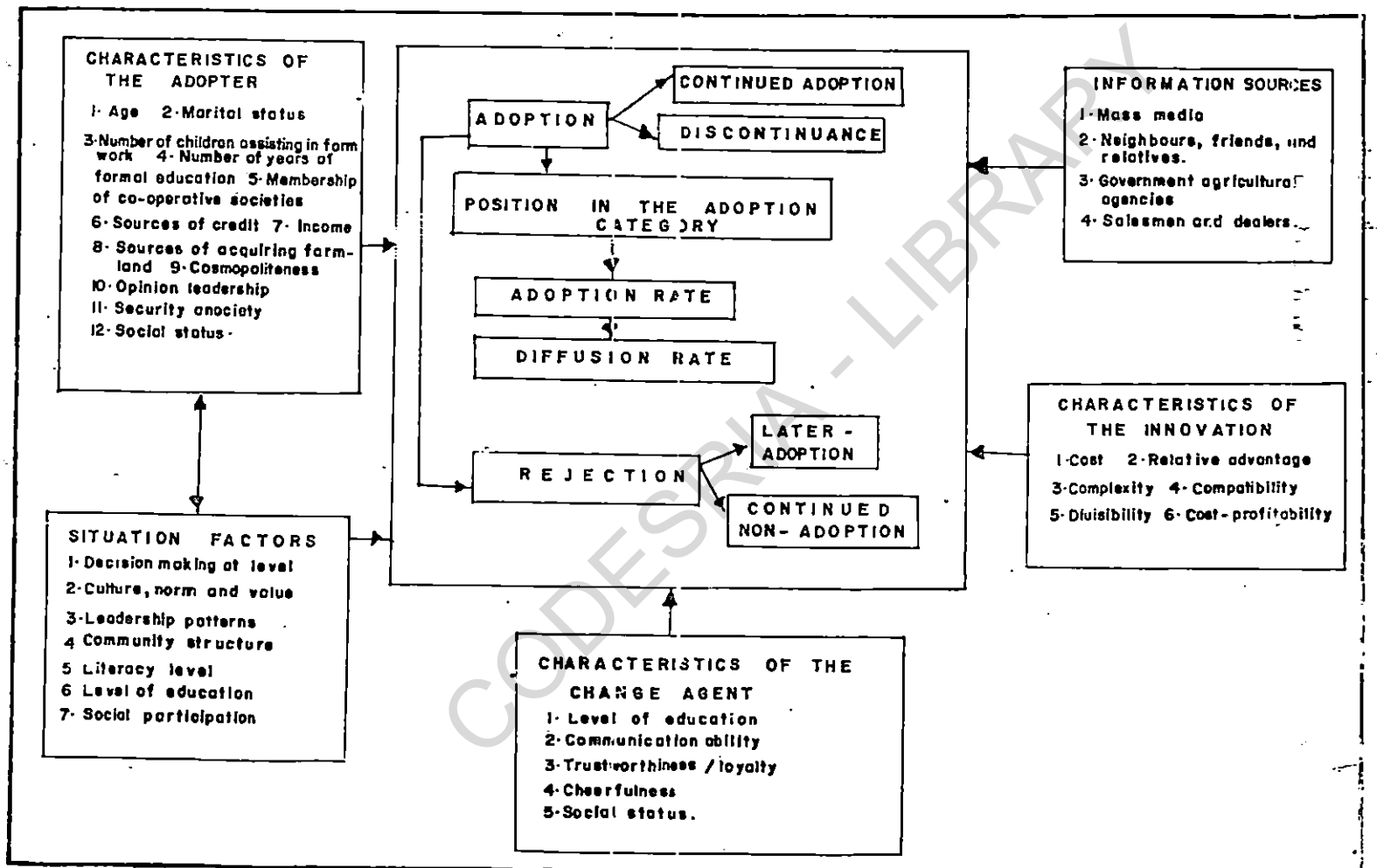


Fig. 2: Hypothetical model of innovation by an individual within a social system based on Emery and Oeser model.

CHAPTER THREE

METHODOLOGY

3.1 THE STUDY AREA

The study was carried out in Oke-Ogun area, located in the northern part of Oyo-State. It is bounded in the north by Kwara State, in the south by the Oyo, Akinyele, and Iddo Local Government Areas, in the West by the Ibarapa and Ifelodun Local Governments Areas and part of Ogun State and the Republic of Benin, and in the east by the Ogbomoso, Ogo-Oluwa, Orire, and Oyo Local Governments Areas. Oke-Ogun area of Oyo State consists of eleven Local Government Areas as opposed to the former five Local Government Areas, before the creation of new Local Governments in 1997.

3.2 THE POPULATION STUDIED

The people in Oke-Ogun area are Yoruba speaking indigenes. Their major occupation is farming and weaving of "Aso-Oke". Oke-Ogun area is popularly known as the "food basket" of Oyo State. Farmers there cultivate food crops such as maize, cassava, melon, yam, and guinea corn both for domestic consumption and for sale. They also engage in cultivation of tomatoes, peppers of different kinds, and different kinds of vegetables both for sale and consumption purposes. Some of them also engage in the cultivation of cash crops like cacao, palm trees, citrus fruits and rubber, ranging from small to medium scale. There is also small-scale rearing of livestock and poultry by most people in the Oke-Ogun area of Oyo State.

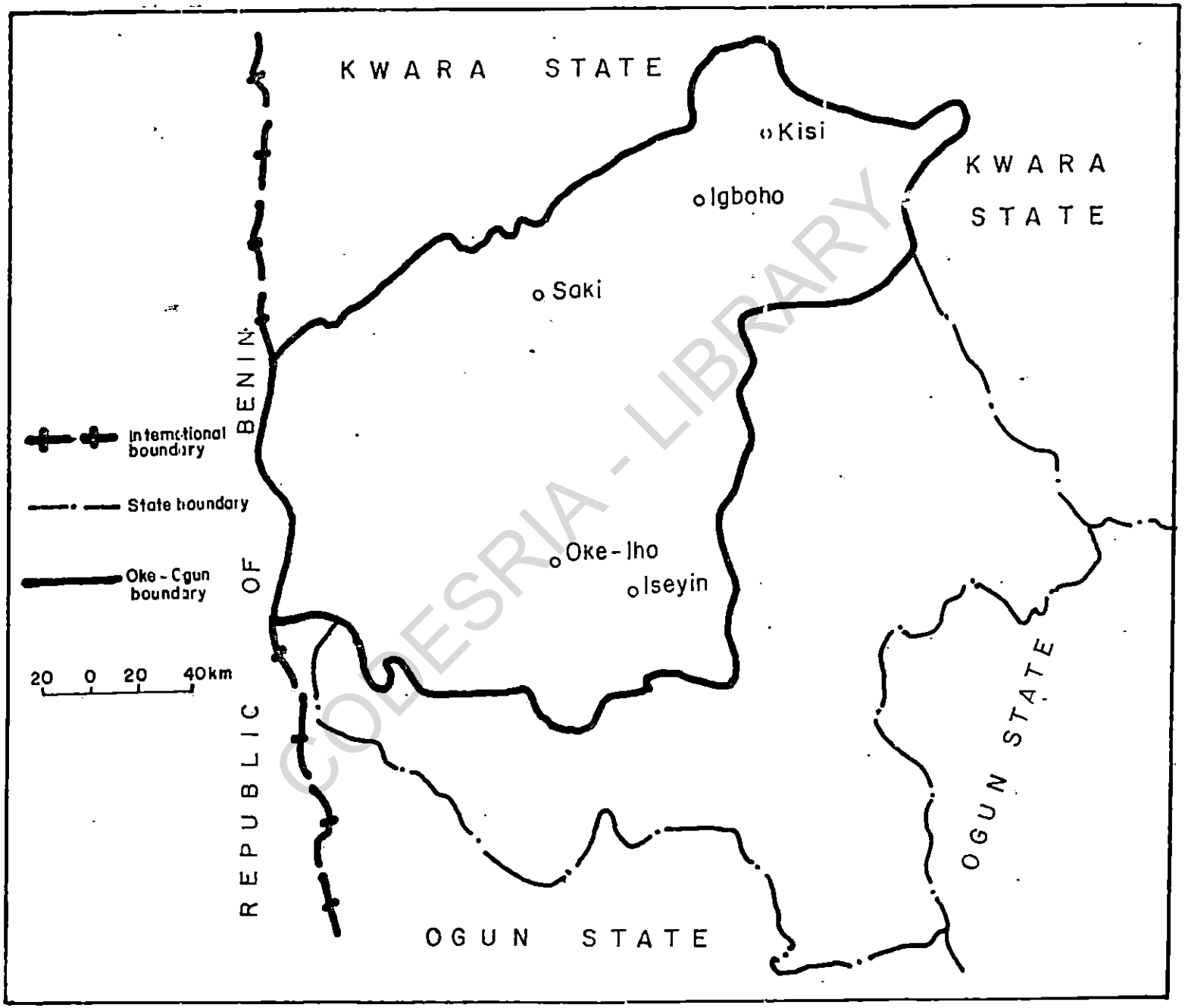


Fig. 3: Map of Oyo state showing Oke-Ogun area.

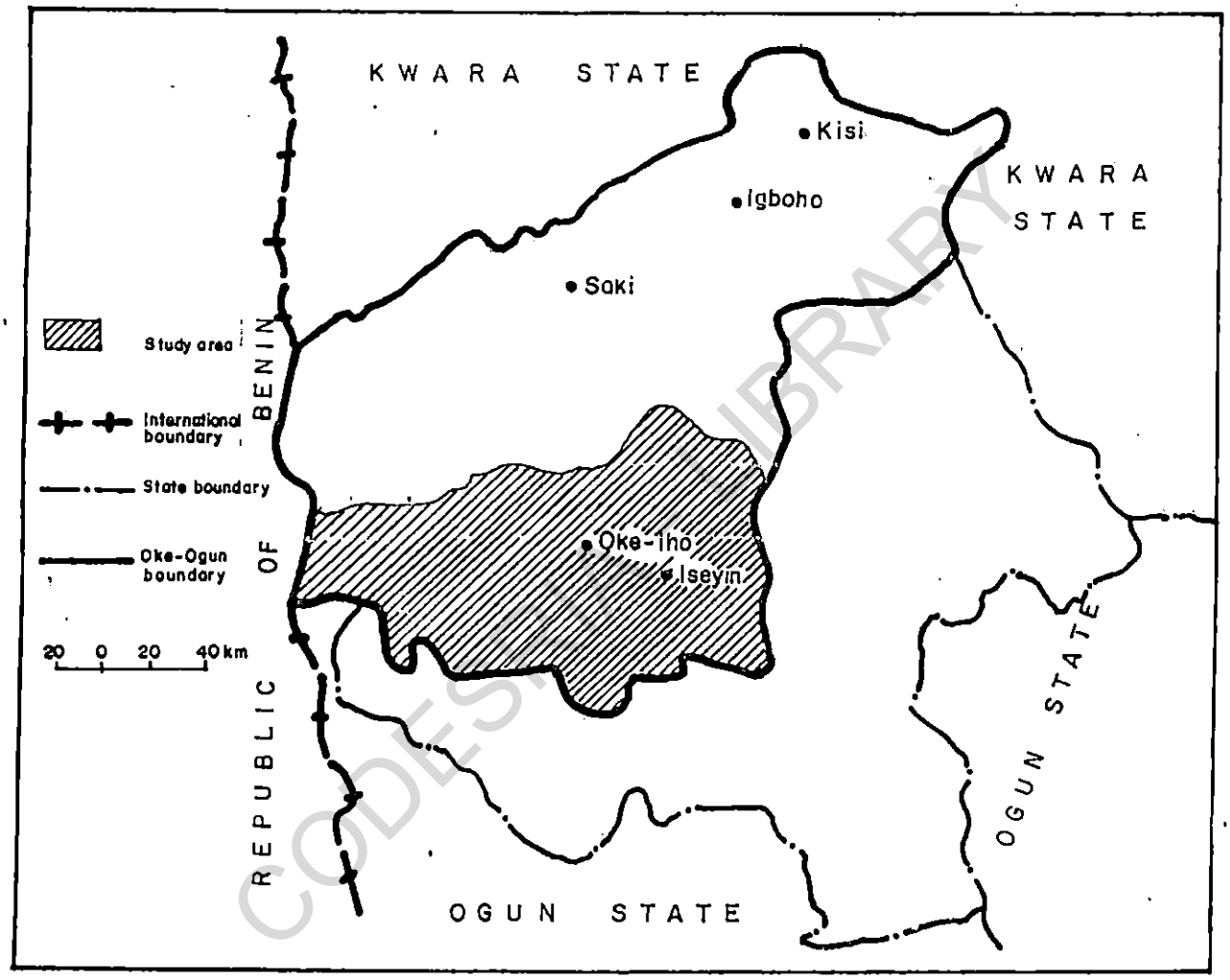


Fig. 4: Map of Oyo state showing the study area.

3.3 SAMPLE AND SAMPLE SELECTION

The target-population for this study are women farmers in the rural area of Oke-Ogun, Oyo-State. Three Local Governments were purposively selected namely, Iseyin, Itesiwaju, and Kajola Local Governments based on the following criteria: geographical centrality, extent of cassava cultivation, the proportion of women farmers, and accessibility.

Proportional to the number of farming communities in each of these three Local Government Areas, nine farming communities from Iseyin Local Government Area, six from Itesiwaju Local Government, and three from Kajola Local Government were selected. Proportional to the number of women farmers in each farming community, eighty women farmers were randomly selected in the Iseyin Local Government Area, forty-five from Itesiwaju Local Government Area, while thirty were randomly selected from Kajola Local Government Area. Thus,a total of one hundred and fifty five women farmers were interviewed for the study.

3.4 DEFINITION AND MEASUREMENT OF VARIABLES

Two types of variables were involved in the study, and these are the dependent and the independent variables.

Dependent Variable: The dependent variable employed in this study was adoption in respect of the improved cassava varieties. Adoption involves the decision making process which consists of many decision making stages. Hence, adoption process was used to measure the adoption scores of the respondents. Adoption process consists of five major stages viz; (1) Awareness (2)Interest 3)Evaluation (4) Trial (5)

Adoption. Each stage was assigned a score ranging from 1 to 5. Therefore the maximum adoption score possible for an individual respondent is 5, while the minimum is 0 (when the respondent has never heard about the improved cassava varieties).

Independent Variables: The independent variables include the personal and socioeconomic characteristics of the respondents(such as age, marital status, number of children assisting in farm work, number of years of formal education, membership of co-operative society, source of credit, method of acquiring farmland, and income, characteristics of the improved cassava varieties (cheap/economical, relative advantage, complexity (planting mechanism), compatibility, and availability), situational/community factors (decision making at individual level, culture, norms, and values of the community and leadership pattern of the community).

Decision making at individual level was measured through the sources of influence on respondent's decision making. Respondents were asked to answer `yes' or `no' to each of the sources of influence on their decision to adopt or not to adopt the improved cassava varieties. These sources are (1) Husband (2) Relative (3) Neighbours and friends (4) Mass media (5) Community attitude (6) Extension Agent. A response of `yes' was scored 1 mark, while a response of `no' was assigned zero(0). The possible maximum score for a respondent is 6, while the minimum is 0.

Culture, norms and values of a community were measured through the number of times that each woman farmer (respondent) had been called upon to contribute to community affairs in the past two years. This was done to test the extent to which the culture, norms and values of the community gave room for women participation in community affairs. The score ranged from:

0 = None
1 = once
2 = twice
3 = thrice
4 = four times
5 = five times
6 = six times and above

The maximum score available for each respondent is 6 while the minimum score is zero.

The leadership pattern of the study area was measured by identifying women who were among leaders in the community. Each respondent was asked to mention at most, ten people she considered as leaders in her community. Out of these ten names, the number of women was sorted out to determine those among them that were holding leadership positions in the community. This was used to determine the level of involvement of women in leadership activities in the community. The scores ranged from:

0 = none
1 = one woman
2 = two women
3 = three women
4 = four women
5 = five
6 = 6 women and above

The maximum score was 6 while the minimum score was 0 for each respondent.

3.5 PRETESTING THE DATA GATHERING INSTRUMENTS

The interview schedule used in eliciting information from the respondents was

pretested on ten randomly selected women-farmers in "Moro" and "Yakooyo" towns (in Ife North Local Government of Osun-State) who were cassava farmers. These women were selected based on the possession of similar characteristics with women farmers in the main study area (rural areas of Oke-Ogun, Oyo-state) in terms of their background and exposure to agricultural innovations or improved practices.

3.6 MEASURING VALIDITY AND RELIABILITY OF DATA GATHERING INSTRUMENT

Face and content validity were carried out on the data instruments based on the judgement of some experts in statistics.

Reliability test of the data instrument was carried out by interviewing ten women farmers twice atAN interval of two weeks. The mean score of each of the ten respondents at the first and second interview, respectively, was calculated to determine correlation coefficient using the formular for coefficient of correlation

$$r_{xy} = \frac{\sum xy}{\sum x . \sum y}$$

where X represents the first test scores and Y represents the second test scores.
A correlation coefficient(r) of 0.79 was arrived at, which shows that the data instrument was favourably reliable.

3.7 THE DATA GATHERING INSTRUMENT

Structured interview schedules with both open- and close- ended questions, duly pretested before use were employed to elicit information on both dependent and independent variables from the randomly selected women farmers in the area of study.

The dependent variable for this study was the adoption of improved cassava varieties by women farmers in the area of study, while the independent variables were personal and socio-economic characteristics of the respondents, characteristics of the improved cassava varieties and situational or community factors.

3.8 DATA ANALYSIS

Both descriptive and inferential statistical tools were used to analyse the data collected. The descriptive statistical tools used include frequency counts, percentages, means, pie and bar charts, and line-graph, while the inferential statistical tools such as chi-square, regression analysis, multiple regression, and correlation analysis were employed to show the relationship between the dependent and independent variables in testing the null hypotheses set for the study.

3.9 JUSTIFICATION FOR THE USE OF INFERENTIAL STATISTICAL TOOLS:

The inferential statistical tools employed to test the null hypotheses set for this study are regression analysis, multiple regression, chi-square, and correlation coefficient.

Regression Analysis and Multiple Regression: These statistical tools are measures of association. Regression analysis measures the amount or magnitude of change in the dependent variable explained by each independent variable. It is very useful for predicting the magnitude of change in the dependent variable caused by each independent variable.

Multiple regression is normally employed when there are more than one independent variable associating with a dependent variable having numerical values and are continuous. It measures the quantity or magnitude of change in the dependent variable brought about by all the independent variables put together. Hence, both regression analysis and multiple regression were employed to measure the relationship between the demographic and socio-economic characteristics of women farmers (independent variables) and their adoption (dependent variable) as one of the null hypotheses set for this study.

Chi-square Analysis: This is a non-parametric statistic normally used when the shape of the distribution of the variables involved is not implied, although categorized. It shows the discrepancy between the observed frequencies and the theoretical ones. It is appropriate for testing hypotheses with non-parametric nominal variables such as sex, religion, marital status, etc. The contingency coefficient measures the strength of the relationship between the dependent and independent variables established by the use of chi-square. Therefore, these statistical tools (chi-square and contingency coefficient) were employed in this study to test the relationship between the perceived characteristics of the improved cassava varieties and their adoption by women.

Correlation Coefficient and Coefficient of determination: The correlation coefficient(r) is a measure of association between two variables. It measures the direction of association between two variables. Correlation coefficient(r) ranges from -1 to +1. When r = -1, it implies a perfect negative relationship between the two variables involved (i.e. the higher the magnitude of X-variable, the lower the value

of Y-variable); when r = 0, it means zero or no relationship exists between variables X and Y; when r = +1, it shows a perfect positive relationship between variables X and Y (i.e. the higher the value of X-variable, the higher the value of Y-variable). However, the magnitude of the variation is given by r^2 which is called coefficient of determination. Hence, both correlation coefficient(r) and coefficient of determination were employed in this study.

3.10 LIMITATION OF THE STUDY

Due to limitation in time and inadequate equipment at the disposal of this study, it covered only three Local Government Areas, out of the eleven Local Government Areas in the study area (Oke-Ogun in Oyo State).

Improved cassava varieties were chosen for the study out of several agricultural innovations introduced to the area because cassava is one of the most popular food staples in the area.

CHAPTER FOUR

ANALYSIS OF DATA AND DISCUSSION

This chapter consists of the analysis and discussion of the results of this study. It will be considered under three sections. Section one deals with descriptive analysis; section two deals with testing of hypotheses and section three, the discussion.

4.1 DESCRIPTIVE ANALYSIS

Appropriate statistical tools such as frequency counts, mean, pie chart, bar chart, and graphs have been used in this section. This section examined the following:

1. Demographic and socio-economic characteristics of respondents.
2. Adoption Index
3. Situational/Community Factors

   a) Decision making at individual level b) Culture, Norms and values (c) Leadership Pattern. Each of these subheadings is discussed separately below.

4.1.00 Demographic and Socio-economic Characteristics

The personal characteristics of the respondents used in this study are: age, religion, marital status, and number of children assisting in farm work. While the socio-economic variables include years of formal education, membership of co-operative society and other social groups, source of acquiring farm land, size of arm land, major and minor occupation, number of animals reared, regular source of income, purpose of cultivating cassava, marketing of cassava, processing of cassava, and training received on modern ways of processing cassava.

4.1.01 Age

As shown in Table 1, 1.9% of the respondents fell below 21 years of age, 16.1% fell between 21-30 years, 58.7% between 31-40 years, 17.4% between 41-50 years, 5.2% between 51-60 years, while only one selected respondent failed to respond.

The result of the distribution of the respondents by age implies that majority of the respondents are still in their working and active age. None of them was above 60 years of age, while the majority (58.7%) were between 31-40 years. This means that under conducive working conditions, these women farmers with their youthful vigor could form the pivot of improved agricultural production of the nation.

4.1.02 Religion

As shown in Table 1, about 44.5% of the respondents claimed to be muslims, 44.3% claimed to be christians, 12.3% belonged to traditional religion, while the remaining 1.9% did not disclose their religiou affliation during the interview. This implies that Islam and Christianity were the common religions among women farmers in the area of study.

4.1.03 Marital Status

In Table 1, majority (81.3%) were married, 5.2% were separated, 1.9% divorced, 4.5% were widowed, while the remaining 7.1% claimed to be single.

This implies that majority of the respondents were married women. This may be due to the practice of early marriage, especially among Yoruba people.

4.1.04 Number of Children Assisting in Farm Works

As shown also in Table 1, 45.2% of the respondents claimed to have between

1-3 children assisting them on the farm, 26.5% had between 4-6 children assisting them, 26.5% claimed not to have any children assisting them, while the rest (0.6%) failed to respond to this question.

The mean number of children assisting in farm works is 2.045 with standard deviation of 0.766. The fewness of number of children assisting on the farm may probably be due to the effect of free primary education and the accompanying high rate of rural-urban migration. Many rural youths have moved out to the urban areas either for continuation of their education or to learn trade or other vocation, thus reducing their involvement in farm work. Even those that are schooling in the rural areas can only help on the farm after school hours, at weekends and during holidays.

4.1.05 Number of Years of Formal Education

As shown in Table 1, 27.2% of the respondents spent between 1-5 years in school, 27.1% completed primary school, 9.7% did not complete secondary school, 7.7% completed secondary school, 5.2% went to tertiary institution, while 22.6% did not attend any formal institution.

This implies a low level of education among the respondents, as shown in the data, majority of them passed through formal institution of learning, although very small percentage (5.2%) had tertiary education.

Table 1

Distribution of Respondents by their Demographic Characteristics

Characteristics	N	%
1. Age in Year		
Less than 21	3	1.9
21 - 30	25	16.1
31 - 40	91	58.7
41 - 50	27	17.4
51 - 60	8	5.2
Above 60	-	-
No response	1	0.7
Total	155	100.0
2. Religion		
Islam	69	44.5
Christainity	64	41.3
Traditional	19	12.3
No response	3	1.9
Total	155	100.0
3. Marital Status		
Married	126	81.3
Single	11	7.1
Separated	8	5.2
Widowed	7	4.5
Divorced	3	1.9
Total	155	100.0
4. Number Children Assisting in Farm Work		
None	41	26.5
1 - 3	70	45.2
4 - 6	41	26.5
7 - 8	2	1.3
No response	1	0.6
Total	155	100.0
Mean = 2.1		
5. Number of Years of Formal School		
None	35	22.6
1 - 5	43	27.7
6	42	27.1
7 - 9	15	9.7
10	12	7.7
Above 10	8	5.2
Total	155	100.0
Mean = 2.7		

4.1.06 Membership of Co-operative Society

The summary of the distribution of respondents by membership in co-operative society is given in Table 2.

The data showed that about 49% of the respondents were members of co-operative society, 50.3% claimed non-membership while only one respondent failed to respond to this question. This implies that co-operative society is yet to gain much ground among the respondents. Many of these women were yet to realise the advantages of being members of co-operative society, which is mainly financial and social which could have contributed positively to their agricultural productivity.

Only 22.4% of those that were not members gave reason of lack of interest in it; 58.8% claimed lack of knowledge of its importance as their own reason for non-membership of co-operative society; 8.2% said that they were once members but opted out due to one reason or the other; while the remaining 10.6% of those respondents that were not members failed to respond to this question.

Lack of knowledge of the importance of co-operative society takes a major portion (58.82%) of the reasons given by respondents for non-membership. Hence, more effective ways of enlightening the women farmers in the rural areas on the importance of co-operative society should be undertaken by the national body of co-operative society or other government agencies so as to encourage the involvement of women in co-operative society which would consequently bring improvement to their agricultural productivity. 84.5% of the respondents claimed to belong to other social groups.

4.1.07 Sources of Information on Agricultural Innovation

Table 2 gives the summary of the distribution of respondents by sources of information on agricultural innovation used by them.

Majority (73.5%) of the respondents claimed neighbours, friends, and relatives as their best sources of information. Some of the respondents (18.3%) said that Government agencies were their best source of information, while a few (4.1%) responded that salesmen and dealers were their source of information. Similar proportion (4.1%) of the respondents claimed mass media as their best source of information.

In the rural areas where the pattern of interaction is more of face to face (familistic geiminschaft), people live together as a family. Extended family relationship is very rampant there. Hence, people receive most information during their interactions with their neighbours, friends and relatives. Information spread faster through this medium in the rural areas than through any other means. Women that have greater priviledge of meeting one another in the market place, on their way to the market, stream, farm, or to/during any social ceremonies utilize most of these meeting-chances to discuss and exchange ideas with one another. Hence, it is not surprising that majority of the respondents claimed neighbours, friends, and relatives as their best sources of information. The next common source of information to women farmers are government agencies like the Village Extension Agents (VEAs), who are the intermediaries between the Agricultural Development Projects (ADPs) in each State and the farmers. These agents go with the packages of innovation to farmers, and as well take the problems facing the farmers up to the researchers for

investigation and solution. At times salesmen and dealers of farm chemicals and inputs spread new ideas to farmers during their course of selling chemicals and input to them. The most convenient time that farmers, especially women, can listen to the radio (which is the commonest mass media in the rural areas in Nigeria) is at night when they might have finished cooking and they are tired, ready to go to bed. This period of time is very limited and short. Most of the information about agriculture are often passed along with others mostly in the day time.

4.1.08 Methods of Acquiring Farmland

The summary of the various methods of acquiring farmland by the respondents is also given in Table 2.

Majority of the respondents (51.3%) claimed to be using their husband's land. Only 24.7% inherited their own farmland, while 8.2% rented their farmland, while about 7% claimed to be using village land. About 6.3% had their own farmland as gifts while the remaining (2.5%) claimed that they bought theirs.

One of the general problems of women farmers is lack of free access to farmland. It is rare for women to inherit land especially in Yoruba land where this study was carried out. Even if she wants to buy or rent land, such a woman must present a man who will serve as a guarantor or surety for her before such land can be rented or sold out to her. This problem of lack of free access to farmland (unlike their men folk) is hampering the agricultural productivity of women farmers in general, since without land, cultivation of crops will not be possible.

4.1.09 Sources of Credit

The summary of the distribution of respondents by their sources of credit is shown in Table 2.

Personal source of credit had the greatest percentage (35.2%), followed by co-operative society (27.6%), relative advantage (10.3%),husband (16%) and bank (9.0%). then husband (16%). Few (1.9%) claimed that their friends were their regular source of credit.

Capital is an important factor of production. Women are known to be disadvantaged in getting free and direct access to many sources of credit, unlike men. Hence the most common regular source of credit among these women respondents is personal. Many of our credit institutions like the bank, discriminate against women. A woman can rarely be given credit by any bank without presenting a man that will stand as a guarantor for her. This problem of lack of free or direct access to source of credit their agricultural productivity has a negative impact on the economy of the nation as a whole, because the level of agricultural production (as a source income to the nation) will be reduced.

4.1.10 Total Income

Table 2 contains the summary of the distribution of respondents by total income earned per annum.

Majority of the respondents (54.2%) claimed to earn above N30,000 per annum. About 36.8% could not give an estimate of their annual income. About 3.2% claimed to earning between ₦25,001 - N30,000 per annum. Few of the

while about 1.9% earned ₦5000.00 and below in a year. Very few (1.3%) claimed their total income to be between ₦5001 - ₦10,000 per annum.

The problem of lack of proper farm record keeping is common among farmers especially the women folk. This is due to low level of literacy among women and lack of conviction of the importance of keeping farm records. Hence very many of them could not give an estimate of their yearly income. Even those that gave were not all that sure of the exact amount; it was just based on guestimate.

Table 2

Distribution of Respondents by their Socio-economic Characteristics

Characteristics	N	%
1. Membership of Co-operative Society		
No	78	50.32
Yes	76	49.0
No response	1	0.65
Total	155	100.00
2. Sources of information		
Neighbours,friends & relatives	125	73.5
Government Agencies	31	18.3
Mass media	7	4.1
Salesmen & Dealers	7	4.1
Total	*170	100.0
3. Method of acquiring farmland		
Husband	81	51.3
Inheritance	39	24.0
Rent	13	8.23
Village land	11	7.0
Gift	10	6.3
Bought	4	2.5
Total	*158	100.0
4. Sources of Credit		
Personal	55	35.2
Co-operative Society	43	27.6
Husband	25	16.0
Relatives	16	10.3
Bank	14	9.0
Friends	3	1.9
Total	*156	100.0
5. Total Income(N per annum)		
5000 and below	3	1.9
5001 - 10,000	2	1.3
10,001 -15,000		
15,001 -20,000	4	2.6
20,001 -25,000		
25,001 -30,000	5	3.2
Above 30,000	84	54.2
Cannot estimate	57	36.8
Total	155	100.0

*Some respondents claimed more than one source.

4.1.11 Size of Land Devoted to Each Crop

The major staple crops in the area of study are maize, cassava, yam, melon, guinea corn and cocoyam.

Mixed cropping is a normal and usual practice in the area of study. It is very rare to find a piece of land wholly devoted to monocropping. However cassava, maize, yam, and melon are the most common food crops.

4.1.12 Types of Animals Reared on the Farm

Along with cultivation of crops, women also are involved in rearing domestic animals like poultry, goats and sheep. These animals constitute another source of income to these women. Apart from selling them, they do eat them as the occasion demands. It is very rare to get to any rural area in the study area without coming across some of these animals roaming about. This is because they are always on free range system. The summary of the type of animals reared on the farm by the respondents is given in Table 3.

Majority of the respondents (60%) claimed to have up to ten birds, while the remaining sixty-two respondents (40%) claimed to be rearing more than ten birds on their farms. About one hundred and fourteen respondents (73.5%) claimed to be rearing up to ten goats on their farms while the remaining 26.5% indicated that they were rearing more than ten goats on their farms. Majority of the respondents (66.5%) said that they had no sheep that they were rearing. About thirty-nine respondents (24.8%) claimed to have up to six sheep.

The remaining few respondents (8.3%) claimed to be rearing more than ten sheep on their farms. Majority of the respondents (74.2%) claimed not to have any duck they were rearing. Thirty-nine respondents (20%) indicated that they were rearing up to nine ducks, while the remaining 5.8% claimed to be rearing more than ten ducks on their farm.

Birds and goats were the most common domestic animals reared by women farmers, followed by sheep, and then ducks.

Table 3: Distribution of respondents by the types of livestock on their farms

	Hen		Duck		Goat		Sheep		Cattle	
Number	N	%	N	%	N	%	N	%	N	%
1 - 3	28	18.0	15	9.7	51	32.9	34	21.6	6	3.9
4 - 6	19	12.3	14	9.0	39	25.2	5	3.2	2	1.3
7 - 9	7	4.5	2	1.3	5	3.2	-	-	1	0.7
10 - Above	88	50.87	9	5.8	32	20.6	13	8.3	-	-
None	13	8.4	115	74.2	28	18.1	105	66.5	146	94.1
Total	155	100.0	155	100.0	155	100.0	*157	100.0	155	100.0

*Some respondents keep more than one type of livestock.

4.1.13 Income-generating activities of the Respondents and their Husband's Occupation

As shown in Table 4, majority of the respondents (87.1%) had farming as their major occupation. This is followed by trading which 3.2% claimed to be their major occupation. About 2.60% had sewing/tailoring or weaving as their own major occupation. Another 2.6% claimed to be primarily civil servants. Other (1.9%) claimed to major in other occupations like laundry services, food vending, dyeing, etc. The remaining 0.6% claimed hair dressing/barbing, while another 0.6% claimed to be full-time house wives. Majority (58.1%) had trading as their minor occupation, while 14.8% had farming as their minor occupation. About 9.7% claimed sewing/tailoring/weaving secondary to be their major occupation, while 8.4% claimed hair dressing. Some 7.1% claimed other occupations like laundry services, etc as secondary, while 0.6% claimed to be part-time house wives. Very few (0.6%) claimed agro-processing, while another 0.6% claimed government service as their minor occupations.

Majority (78.7%) of the respondents said that their husbands were farmers, while 7.8% fell under the category of other occupations. About 5.8% of the respondents claimed that their husbands were civil servants, while only 3.9% said that theirs were traders. Very few (1.9%) respondents claimed tailoring/weaving was their husbands' occupation. Another 1.9% claimed barbing as their husband's occupation.

Farming is a popular occupation in the area of study. Majority of the people are primarily farmers. Many of the (few) non-farmers had farming as their secondary occupation. It is very rare to find anybody in the study area that does not engage in

farming occupation at all (either on large or small scale basis). The second popular occupation among the women in the study area is trading. This is in form of taking farm produce from the study area to sell in other areas in the country where demand for them is very high. Also, agro-processing activities either for consumption of the family or for sale, is a common occupation among women, and so it will not be surprising that majority of those that claimed to be full or part-time house wives were mostly involved in this. This evident from Table 4, that agro-processing is believed to be women's works. Hence it is very rare to find a man involved in this business. The man will either give the processing work out to hired labourers (who are normally women) or to his wife.

Table 4

Distribution of Respondents by Income Generating Activities with their Husband's

	Major		Minor		Husbands	
	N	%	N	%	N	%
Farming	135	87.10	23	14.80	122	78.70
Agro-processing	2	1.30	1	0.60	000	00.00
Trading	5	3.20	90	58.10	6	3.90
Sewing/Tailoring/ Weaving	4	2.60	15	9.70	3	1.90
Hair dressing/ Barbing	1	0.60	13	8.40	3	1.90
Civil Service	4	2.60	1	0.60	9	5.80
Full time/Part time house wife	1	0.60	1	0.60	0	0.00
Others	3	1.90	11	7.10	12	7.80
Total	155	100.00	155	100.00	155	100.00

4.1.14 Purposes of Cultivating Cassava

Majority of the respondents (92.90%) claimed to cultivate cassava for sale and for consumption. Only 3.9% claimed to be cultivating it for sale only, while 2.9% cultivated cassava for family consumption only. Very few (0.6%) did not respond at all to this question.

Cassava is one of the major staple food crops in Nigeria. Even farmers that are specialists in cultivating other crops, will still have a sizeable plot of cassava for their own family consumption. The same goes for those farmers who are not full-time farmers. Cassava can be processed to various foods forms like 'gari', 'fufu', 'lafun', etc.

4.1.15 Marketing of Cassava

Cassava can be sold raw and/or in processed forms like "gari", "lafun", "fufu", etc. Majority (83.3%) of the respondents sell cassava in both raw and processed forms. Some (12.9%) sell theirs in raw form while very few (3.9%) sell theirs in processed forms only.

Respondents prefer to process their cassava because of the advantages of storability and higher price. The raw forms of cassava cannot be stored for more than a few days.

4.1.16 Uprooting and Processing of Cassava

Uprooting of cassava tubers is an arduous and energy-sapping task which is not normally advised to be carried out by women. However, some women are still

involved in it, although not always on a large scale.

Processing of cassava tubers into foods forms like 'gari', 'fufu', 'lafun', etc takes several days. gets the end product. The number of days for processing depends on the finished product. This may be the reason why very few women farmers sell their cassava produce solely in processed forms. Many large scale cassava farmers usually sell part of their produce raw to reduce processing cost.

4.1.17 To Whom do the Respondents Normally Sell their Cassava Produce?

Cassava produce is common in many of our agricultural markets, and it is usually the largest commodity in the markets when compared with other food produce in the study area. About 47.7% of the respondents sell their cassava produce normally to wholesalers, while 37.4% claimed to sell theirs to retailers. The remaining (14.9%) sell directly to consumers.

Some of the wholesalers and retailers are also women farmers in the village or in neighbouring villages who take trading as their secondary occupation. These traders usually buy farm produce from their co-women and men farmers to transport them for sale among their larger communities. Because many of our rural areas are not motorable, the only popular means of transportation is by head-carriage, done mostly by women, which is a laborious task . To avoid treking long distances with heavy loads on their heads, many women farmers that are not traders prefer to sell their cassava produce to wholesalers and retailers who come into their villages to buy farm produce. Women farmers normally prefer to sell their produce in bulk to wholesalers because this usually attracts higher price.

4.1.18 Training in Cassava Processing

The traditional methods of processing cassava into various forms have been discovered to be more laborious, unhygienic and more time consuming than the modern ways methods. Hence, training is given on modern methods of processing these cassava produce.

Majority of the respondents (80.6%) have undergone training in modern methods of processing gari. Some (32.3%) claimed that they have been trained in modern method of processing lafun, while 1.9% of the respondents have received training in modern method of processing fufu. Also only 1.9% claimed to have received training in modern methods of processing starch.

Gari and lafun are the two commonly processed forms of cassava found in the study area. Fufu, as a food is not very common.

4.2 ADOPTION INDEX

4.2.1 Awareness

Figure 4 gives the summary of the awareness of the respondents about the improved cassava varieties.

All the respondents (100%) claimed to have heard about the improved cassava varieties. This implies that awareness of the improved cassava varieties is very high in the study area, probably because cassava is one of the most common food crops in the area of study.

4.2.2 Time of Awareness

The summary of the time of awareness by the respondents is given in Figures 5 and 6 below.

The greatest awareness was created in 1994, when 27.7% of the respondents first heard about the improved cassava varieties. Some 21.3% claimed their first awareness of the improved cassava varieties to be in 1995, while 20% first heard about them in 1993. Few (2.6%) first heard about them in 1991. Very few (1.3%) heard of the improved cassava varieties in 1990. Only one respondent could not remember the year she first heard of the new varieties of cassava. This gives a graph of increasing slope from 1990, peaking at 1994, and then decreasing down to 1996 to give a dumb-bell shaped curve. The rate of awareness of improved cassava varieties was very high and fast, that within six years every one of the respondents had heard about them.

4.2.3 Adoption

Out of the total of one hundred and fifty-five respondents that claimed to have heard about the improved cassava varieties, one hundred and forty respondents adopted (90.32%) while the remaining (9.7%) did not adopt, that is, rejected the innovation (Fig.4). This implies mass adoption: almost all that heard about the improved cassava varieties adopted them. As shown in Figures 5 and 6, 46.4% of the respondents adopted in 1996, while 27.1% did so in 1995. In 1993, 13.6% adopted the improved cassava varieties, while in 1992, only 5.7% adopted. About 0.7% adopted in 1990. The highest adoption was recorded among respondents in 1996. Thus, adoption rate increases gradually from 1990 to 1996.

4.2.4 Reasons for Adoption

Table 5 shows the distribution of respondents that adopted the improved cassava varieties by the reasons for their adoption. Majority of the respondents (59.9%) claimed to have adopted the improved cassava varieties because of its relative advantage (higher yield) over the older varieties. Only 14.4% adopted them because their production fits into existing cultural practices and their adoption does not contradict their culture in any way. Few of the respondents (12.8%) adopted the improved cassava varieties because they are cheap and economical. Only a few respondents (6.4%) have adopted them because the method of planting is easy to understand. Another 6.4% adopted because the varieties are available. It is implied that the improved cassava varieties have the following characteristics as justified by the data collected from the respondents: high relative advantage (higher yield), compatibility with the existing culture, cheap and economical, the method of planting is easy to understand, and availability of these improved cassava varieties, motivated the respondents to adopt since a majority of the respondents adopted because of their relative advantage (higher yields): it implies that the extent of the relative advantage that an innovation has over the older one has a strong influence on its rate and level of adoption.

People naturally prefer relatively cheap and economical items to expensive and uneconomical ones. The present economic depression in Nigeria reinforces this principle. Because of the low level of literacy among farmers, they generally appreciate practices that they can easily understand when they are on their own.

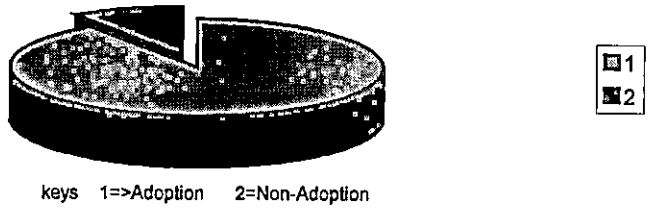
4.2.5 Adoption Period

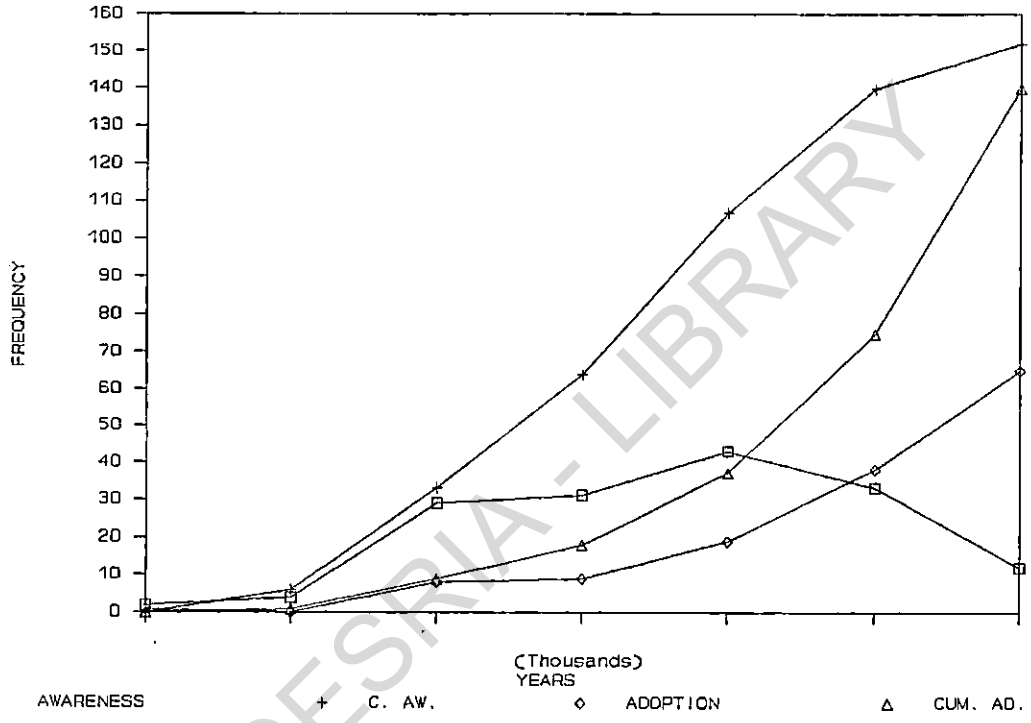
Adoption period refers to the time an individual first heard about an innovation and when he or she eventually adopted it. It varies from individual to individual, and from one innovation to the other. Probably the higher an individual is in the adopter's category, the shorter will be his/her adoption period because the easier it will be to convince such an individual about the need to adopt an innovation. An individual that is an innovator will be more easily convinced to adopt ealier than a laggard.

Majority of the respondents (90%) had between 1-3 years as their adoption period. About 8% claimed between 4-6 years as the period between their first awareness of the improved cassava varieties and when they finally adopted while the remaining 2.1% had above six years as their adoption period. This implies that there were more innovators among these women farmers than laggards, with respect to the adoption of the improved cassava varieties. This is an evidence that women farmers are actively and whole-heartedly involved in their occupation.

Fifteen respondents (9.7%) did not adopt the improved cassava varieties at all. All of them gave the reason that the improved cassava varieties were not easily available. They said that even though they were convinced of the relative advantage of these improved varieties over the older ones, they were afraid of being disappointed if they could not obtain enough of these new varieties to plant after they might have discarded their old varieties which they can easily obtain in abundance.

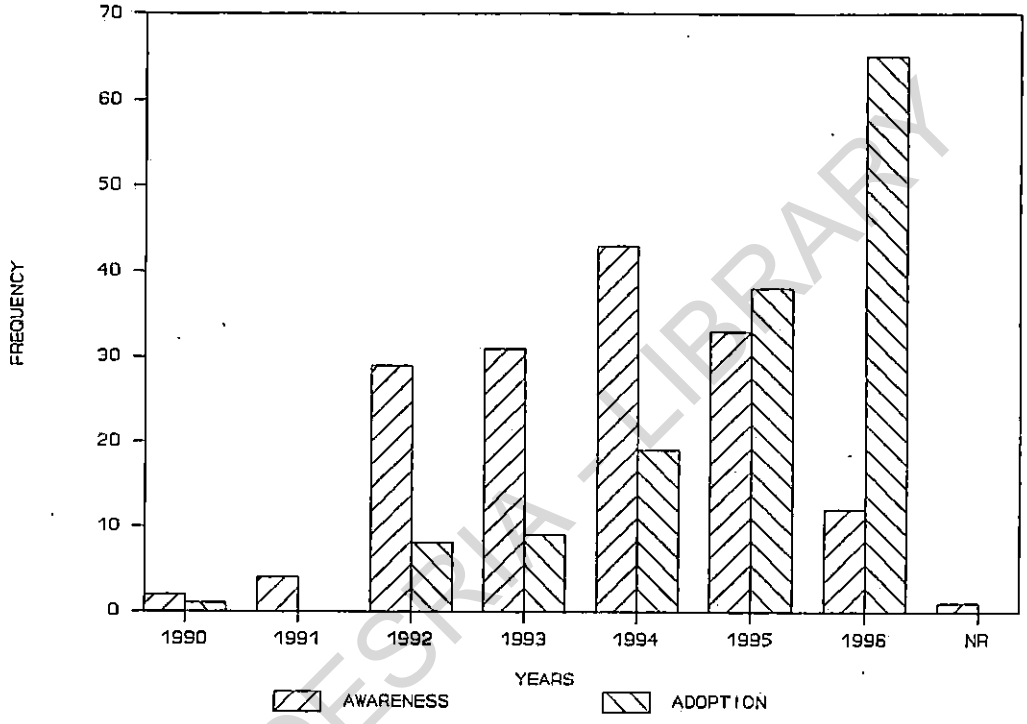
Fig 5: Pie Chart showing the distribution of respondents by awareness and adoption of improved cassava varieties.





C. AW. = CUMULATIVE RATE OF AWARENESS
C. AD. = CUMULATIVE RATE OF ADOPTION

FIG. 6: Graph showing the distribution of respondents by annual cumulative rates of awareness and adoption



NR = NO RESPONSE

FIG. 7: Bar charts showing the distribution of respondents by annual rates of awareness and adoption.

4.2.6 Impact of the Cultivation of Improved Cassava Varieties on Income of the Respondents

Majority of the respondents (83.7%) declared that they have experienced increase in their income from cassava cultivation as a result of their adoption of the improved cassava varieties. However, few of them (16.1%) said that there was no increase in their income from cassava cultivation even though they had adopted the improved cassava varieties. The reasons given for lack of increased income varied from inability on the part of the women farmers concerned to plant the improved cassava varieties as recommended (0.6%). A similar percentage (0.6%) claimed that the improved varieties were not as good in yield as the older ones; eight respondents (5.2%) said that the extension officers did not assist them very well. Some (3.7%) claimed that there was no enough market while the remaining 6.4% claimed farm-disaster like fire outbreak as the cause of lack of increase in their income from cassava cultivation.

4.3.0 SITUATIONAL/COMMUNITY FACTORS

4.3.1 Decision Making At Individual Level

4.3.1.1 Sources of influence on decision to adopt or not to adopt.

The summary of the distribution of respondents by the sources of influence on decision to adopt or not is shown in Table 5.

Majority of the respondents (61.0%) claimed neighbours and friends as their sources of influence on their adoption decision making. Few of them (12.8%) said that community attitude had a great influence on their decision to adopt or not to

adopt the improved cassava varieties. Another 12.8% claimed influence from extension agent to be a strong factor on their decision to adopt, while 10.5% claimed that relatives were a strong source of influence on their decision to adopt or not to adopt the improved cassava varieties. Only very few of them (2.9%) responded that mass media was a strong source of influence on their adoption behaviour.

These results show that neighbours and friends, general community disposition to agricultural innovations, extension agents and relations in that order of importance are very influential in the decision-making process of women to adopt new ideas.

Table 5

Distribution of Respondents by Reasons for Adoption and Sources of Influence on Decision to Adopt or not

Reasons and Sources of Influence	N	%
1. Reasons for Adoption		
Relative advantage (higher yields)	112	59.9
Compatibility with Culture	27	14.5
Cheap/Economical	24	12.8
Planting Mechanisms Easy to understand	12	6.4
Availability	12	6.4
Total	*187	100.0
2. Sources of Influence on Decision to Adopt or not		
Neighbours and Friends	105	61.0
Community attitude	22	12.8
Extension Agent	22	12.79
Relatives	18	10.5
Mass Media	5	2.9
Total	*172	100.0

* Some respondents gave more than one answer.

4.3.1.2 Number of People Convinced by the Respondents to adopt the Improved Cassava Varieties.

About sixty-seven respondents (43.2%) claimed to have convinced between one and three people to adopt the improved cassava varieties, while 36.8% of the respondents claimed to have convinced more than three people to adopt the improved cassava varieties. Only thirty-one respondents (20%) had not convinced anybody to adopt the improved cassava varieties.

Women, because of their high cosmopoliteness and interaction ability, are a good instrument for disseminating new ideas. They have strong influence on one another as friends, neighbours, and relatives, as well as on the opposite sex, men. Hence, an innovation that gained mass adoption among women may be generally adopted in that community through the influence of women on others. Women are easy to be convinced, and they easily convince others, because they spend most of their time in company of one another. This is in agreement with Alao et al. (1996) who stated rural women could be used as "agent", "medium", and "target" to bring about development in our rural areas.

4.3.2 Culture, Norms and Values

4.3.2.1 Number of Times in the past two years when Consulted to Contribute to Community Affairs

About seventy-one (45.8%) of the respondents said they had been called upon to contribute to community affairs between one and three times in the past two years. Few of them (9.7%) had been called upon more than three times while 44.5% of the

respondents had never been called upon to contribute to community affairs in their community within the past two years.

4.3.2.2 Attitude of Men towards Women in the Community

The summary of the distribution of respondents by their perception of attitude of men towards women in the community is shown in Table 6. Majority of the respondents (78.7%) strongly agreed that men in their community appreciate women. Some (16.8%) merely agreed while 3.2% disagreed, and 1.3% were neutral to this.

About 13.3% of the respondents agreed strongly that men protect their own interest alone. Some (32.3%) merely agreed, while about 11% were neutral. About 27% disagreed, while 14.8% strongly disagreed with this.

About 13.5% of the respondents indicated that they strongly agreed that men in their community were suspicious of women. Some of them (31%) merely agreed, while 32.9% of the respondents were neutral. Few of them (18.7%) disagreed, while 3.8% strongly disagreed with this.

Few of the respondents (9.7%) testified strongly to the fact that men in their community do not trust women. About 18% agreed, while 44.5% were neutral to this statement. About 25.8% disagreed, while the remaining 1.9% strongly disagreed to it.

Few of the respondents (5.8%) strongly agreed that men in their community do not listen to women view. About 18.1% of the respondents agreed to this, while about 31% were neutral. Some of them (37.4%) disagreed with, while the rest 7.7% signified that they strongly disagreed with the statement.

Only fifteen (9.7%) of the respondents strongly agreed that men in their community do not hold meetings with women. About 31.6% of the respondents said that they agreed with it, while 21.9% were neutral with this statement. About forty respondents (25.8%) disagreed with this statement, while the rest (10.9%) strongly disagreed.

About thirteen respondents (8.4%) claimed that they strongly agreed that men do not consider women as equal in their community. Few of the respondents (12.9%) agreed with this statement, while 22.6% were neutral to it. Many of the respondents (42.6%) disagreed that men in their community do not consider women as equal, while 13.5% strongly disagreed with this notion.

Women are generally highly esteemed and appreciated as mothers and wives in the community. Before this time, women were believed to be behind in every matter. Therefore, if any woman was forging ahead of the men in any matter in the community, she would be under high suspicion of the menfolk. Women were seen and believed to be traitors, hence men do not trust them. There are many proverbs in Yorubaland that confirm that women should not be trusted, and that a man that is revealing his secret to a woman ia playing with his life, even if that woman is his wife. In those days, it was regarded as a sign of weakness for a man to be listening to women's views on any matter, or to be seen holding meeting with women. A society that had a higher population of women than men was considered as a weak society, and people looked down on such society. It was even forbidden for a woman to consider herself as equal with a man; such was considered a sign of arrogance and disrespect.

Nowadays, however it is not surprising to hear songs of appreciation from men to women, seeing men trusting their lives into women's hands without any feelings of insecurity. Men can nowadays welcome and implement women's views, hold meetings with them and, in many cases, consider women as equals with them.

All these changes about the roles of women in our communities are coming about as a result of enlightenment programmes by various women liberation organisations, lecturing and re-orientating the minds of people to seeing women as partners, in progress, and as talented equals in the society. This has brought great social development and educational, economical, and physical advancement to our nation. Although some people are yet to be convinced of the importance of women and their indispensable roles in our society, it is hoped that with time and with unrelenting efforts of enlightenment, they will be persuaded to appreciate women's roles in the development of our society and nation.

Table 6

Distribution of respondents by their perception of the attitude of men towards women in the community

Attitude	S A		A		N		D		SD	
	N	%	N	%	N	%	N	%	N	%
Appreciate women	122	78.7	26	16.8	2	1.3	5	3.2	-	-
Protect their own selfish interest alone	23	14.5	50	32.3	17	11.0	42	27.1	23	14.5
Suspicious of women	21	13.5	48	31.0	51	32.9	29	18.7	6	3.9
Do not trust women	15	9.7	28	18.0	69	44.5	40	25.8	3	1.9
Do not listen to women-view	9	5.8	28	18.0	48	31.0	58	37.4	12	7.7
Do not hold meeting with women	15	9.8	49	31.6	34	21.9	40	25.8	17	10.9
Do not consider women as co-equal	13	8.4	20	12.9	35	22.6	66	42.6	21	13.5

4.3.3 Leadership Pattern

4.3.3.1 Sex and Leadership Roles

As shown in Table 7, which contains the distribution of respondents by the number of men and women known to be leaders in their community, 46.4% of the respondents mentioned between one and three men as leaders in their community. Also, between one and three women were mentioned as leaders in the community by majority of the respondents (63.2%). Some respondents (38.1%) mentioned from four to six men as leaders in their community,while 23.2% of the respondents mentioned between four and six women as leaders. Few of the respondents (11.6%) mentioned more than six men as leaders in their communities, while very few (7.1%) mentioned more than six women as leaders. About six respondents (3.9%) mentioned no man as leader in their communities, and 6.5% of the respondents could not mention any woman as leader in their communities.

Leadership proneness is still higher among men than women. Nevertheless, to have found some women leaders in the communities is an improvement on status quo, and an evidence that women are no longer regarded as weaker vessels only useful "in the kitchen". Women are now in a majority as opinion leaders in some areas. Some of them can now take decisions on their own without fear of being ridiculed or scolded by their male counterparts in the community.

Table 7

Distribution of Respondents by Sex and Leadership Roles

	MEN		WOMEN	
Number of Leaders	N	%	N	%
1 - 3	72	46.4	98	63.2
4 - 6	59	38.1	36	23.2
More than 6	18	11.6	11	7.1
None	6	3.9	10	6.5
Total	155	100.0	155	100.0

4.3.3.2 Reactions of People to a Woman who first Adopted an Innovation in the Community

Table 8 shows the summary of the perception of the respondents about the reactions of people to a woman who first adopted an innovation in the community. Majority of the respondents (78.7%) agreed that people would accept such a woman who first adopted an innovation and would enquire further about the innovation from her. Some of the respondents (10.9%) said that the people in the community would scold and gossip about such a woman. Few of them (8.4%) responded that majority of the people in the community would not adopt that innovation just because it was first adopted by woman. Very few of the respondents (1.9%) claimed that the people in the community would withdraw from such a woman who first adopted an innovation in their community.

This is the period when people are anxious to imbibe new ideas and information that could help in bringing about an improvement to their social life and an improvement in their general standard of living without caring about the source of such a new idea or information. The problems of economic depression in the nation are now forcing many old sex-biased ideas out of many people's mind. The focus of the majority of people is on how to improve their living. Hence, many people welcome new ideas with an open and sex-neutral mind, unlike before. This is now serving as a source of encouragement to the female-folk who had been negatively affected by these views in the past. We thus find that many of the innovators in many communities are women.

Table 8

Distribution of Respondents by Perception of Reaction of People to a Woman who first Adopted an Innovation in the Community

Reactions	N	%
Accept her and enquire further about the innovation from her.	122	78.7
Withdraw from her	3	1.9
Scold and gossip about her	17	11.0
Majority will not adopt that innovation.	13	8.4
Total	155	100.0

4.4.4 Testing of Hypotheses

4.4.4.1 Hypothesis One: There is no significant relationship between selected demographic and socio-economic characteristics of women farmers, namely; age, marital status, number of children assisting in farm work, number of years of formal education, membership of cooperative societies, sources of credit, income and method of acquiring farmland and their adoption of improved cassava varieties.

Table 9: Regression analysis showing the linear relationship between the selected personal and socio-economic characteristics of women farmers and their adoption of improved cassava varieties.

Characteristics	Regression Coefficient (b)	T-value for Ho	P-value
Age	-0.192	-1.878	0.063
Marital Status	-0.046	-0.052	0.605
Number of children assisting in farm work	0.111	1.064	0.289
Number of years of formal education	0.001	0.079	0.937
Membership of co-operative society	0.251	2.009*	0.047
Source of credit	0.179	1.146	0.261
Income	0.077	0.880	0.380
Method of acquiring farm land	0.051	0.449	0.311

$R^2 = 0.127 = 0.13$
Adjusted $R^2 = 0.011 = 0.01$
critical value of t at (0.05) (153) = 1.96
*significant relationship at $p \leq 0.05$.

The data on Table 9 show R^2 value of 0.13: which is the variations in the dependent (adoption of improved cassava varieties) explained by the independent variables with significant relationship.

As shown in Table 9, a significant relationship was found to exist between membership of co-operative societies (0.251) and adoption of improved cassava varieties by women farmers. This implies that the relationship is not by chance but real, and that will be true in 95 cases out of 100.

It was found that the regression coefficient of the following independent variables were positive: (i) number of children assisting in farm work (0.111); (ii) number of years of formal education (0.001); (iii) membership of co-operative societies (0.251); (iv) sources of credit (0.179); (v) income (0.077); and (vi) method of acquiring farmland (0.051). This implies that:

(i) number of children assisting women farmers in farm work is related with her adoption of innovations and improved practices. This is probably true if higher number of children assisting in farm work would enhance women farmer to increase their farm size which would consequently encourage and fascilitate their adoption of innovations and improved practices. As evident in this study, 45,2% of women farmers interviewed claimed to have between one and three children assisting them in farm work, while 26.5% claimed between four and six children assisting them in farm work. Very few (1.3%) claimed to have between seven and eight children assisting them in farm work while 26.5% and 0.6% had none and did not respond to this question respectively.

(ii) number of years of formal education of women farmers is somehow related to their adoption of innovation and improved practices. This result may be true if their level of education (number of years of formal education) would influence their rate of understanding, cosmopoliteness, and exposure to new and improved ideas. Education brings enlightenment and set an individual's mind free from taboos which atimes, hinder adoption of innovation or new idea.

(iii) membership of co-operative societies influences the adoption of innovation and improved practices of women-farmers. This may be due to financial and social benefits opened to members of cooperative societies which could lead to improvement in their income generating activities such as farming: this would enhance adoption of innovation and improved practices. This study showed that about 49% of the respondents were members of cooperative societies.

(iv) sources of credit available to women farmers has something to do with their adoption of innovations and improved varieties. Capital is a fundamental factor of any enterprises. This result may be true if women farmers are accessible to sources of credit which would enhance their agricultural production, therefore influencing their adoption of innovations and improved practices. It is evident from this study that all the respondents claimed one source of credit or the other, although the percentage varies from one source to another.

(v) annual income of women farmers influence their adoption of innovation and improved practices. The higher the income of a woman farmer the higher her

priviledges and possibilities of adopting innovations and improved practices. This may be so if high annual income would enable a woman farmer to possess larger farm size, hence, enhancing her adoption of innovations and improved practices.

(vi) Method of acquiring farmland available to women farmers is related to their adoption of innovations and improved practices. This result may be true if easy accessibility of women farmers to available sources of farmland would enable them to have satisfactory farm size and personal control in terms of types of crops to plant on the farmland, which would encourage them to freely adopt innovations and improved practices. Land is a major factor of production in farming enterprise, and shortage of it may lead to low level of agricultural production. This study show that all the respondents (women farmers) claimed to have access to one sources of acquiring farmland or the other, although there is customary law which discourages women's inheritance of landed properties in the area of study (Yorubaland).

However, there are intercorrelations between the independent variables which offer significant explanation in respect of the respondent's characteristics. For example, age is positively related with marital status and significant at 0.02 level of probability ($r = 0.219$) but, it is negatively significant at 0.001 level of probability with number of years of formal education ($r = 0.404$). Marital status is significant but positively related at 0.01 level of significance with number of children assisting in farm works ($r = 0.195$) and negatively related with and significant with number of years of formal education ($r = -0.194$). Number of children assisting in farm work is positively related and significant with membership of co-operative society (r

= 0.373) at 0.001 level of significance. Sources of credit is positively significant at 0.001 level of significance with number of children assisting in farm works (r = 0.2703), co-operative society (r = 0.068).

These imply that;

i. the older a woman farmer is the greater the chance of her getting married or the higher will be her marital experience.

ii. the older a woman farmer is the higher the probability of her having more children assisting her in farm works.

iii. the older a woman farmer is the lower the probability of her attaining higher level of formal education.

iv. the higher the marital experience of a woman farmer, the lower the probability of her attaining higher level of formal education.

v. the higher the number of children assisting women in farm work the higher the chances of her membership of co-operative society.

vi. the higher the chances of obtaining credit from various sources, the higher the probability of having more children assisting in farm work.

vii. a woman farmer that is a member of cooperative society will have higher sources of credit than a non-member.

4.4.4.2 Hypothesis Two: There is no significant relationship between selected perceived characteristics of improved cassava varieties, namely: cheap/economical, relative advantage (higher yield), complexity of the planting mechanisms, compatibility with farming culture, availability, and their adoption by women farmers in rural areas of Oke-Ogun in Oyo State.

Table 10: Chi-square analysis using contingency coefficient to show the relationship between selected perceived characteristics of improved cassava varieties and their adoption by women farmers

Perceived Characteristics	Contingency coefficient	P-value
Cost	0.707	0.000≤0.01
Relative Advantage (higher yield)	0.707	0.000≤0.01
Planting mechanism	0.707	0.000≤0.01
Compatibility with farming culture	0.707	0.000≤0.01
Availability	0.707	0.000≤0.01

The summary of the relationship between the characteristics of innovation and adoption is given in Table 10.

All the listed perceived characteristics of the improved cassava varieties have the same p-value of 0.00, (which is less than 0.01), and a contingency coefficient of 0.707. However, further use of correlation analysis shows significant but negative relationships between adoption of improved cassava varieties and its characteristics such as being cheap/economical ($r = -0.027$), complexity ($r = -0.018$).

The implications of these statistical results are:

i. the extent or the strength of the relationship (contingency coefficient) between each of these characteristic features of the improved cassava varieties and adoption is about 0.71 (71%). This shows that there is a very strong relationship between each of these characteristic features and adoption of improved cassava varieties.

These results show that these characteristics are very strong determining factors for adoption of an innovation. With Nigeria's present economic situation, an innovation that is cheap, that has higher relative advantage over an older one, that is easy to understand, which is compatible with existing culture, and is easily available would gain popular and mass adoption among women farmers who are probably among the lowest income earners and the least privileged in our society.

ii. the level of significance of $0.00 < 0.01$ implies that by saying that there is significant relationship between each of the listed characteristics of improved cassava varieties (cheap/economical, relative advantage, easy planting mechanism, compatibility with culture and availability) and adoption of

improved cassava varieties, one would be committing 0.00 error (no error). That is to say that, there is 100% assurance that there is significant relationship between each of the characteristics of the improved cassava varieties and their doption.

iii. the cheaper the innovation the higher its adoption rate by women farmers.

4.4.4.3 Hypothesis Three: There is no significant relationship between selected situational factors, namely: decision making at individual level, culture, norm and values, leadership patterns, and thier adoption of improved cassava varieties by women farmers in rural areas of Oke-Ogun, Oyo State.

Table 11: Regression and correlation analysis showing linear relationship between the selected situational\ community factors and adoption of improved cassava varieties by women farmers in rural ares of Oke-Ogun, Oyo state.

Variables	Regression coefficient b	T-value for Ho	Correlation coefficient (r)	Coefficient of determinant (r^2)
Decision making at individual level	0.539	6.768*	0.483**	0.234
Culture, norms and values	0.056	0.984*	-0.048	0.002
Leadership patterns	-0.204	-4.017*	-0.282**	0.080

Critical value of T at (0.05) (153) = 1.96

*Significant relationship at $p \leq 0.05$

** 1 - tailed significance at 0.001 level of significance.

The results obtained using regression analysis as shown in Table II established significant relationships between adoption of agricultural innovation by women farmers and (i) decision making at individual level, (ii) leadership pattern of the community. This implies that the relationship between adoption by women farmers and situational factors, such as: decision making at individual level; (iii) Leadership patterns, is real, and that the relationship will feature in ninety-five cases out of one-hundred. A positive regression coefficient was found to exist between adoption of improved cassava varieties by women farmers and (i) decision making at individual level; (ii) culture, norm and value.

However, these variables were further subjected to correlation analysis, and the results show that adoption of improved cassava varieties is significantly and positively related to decision making at individual level ($r = 0.4832$). It is also significantly but negatively related to leadership pattern ($r = -0.282$) of the community at 0.001 level of significance, whereas culture, norms and values of the community were found to have no significant relationship with adoption of improved cassava varieties by women farmers.

The implications of these statistical results is that:

i. decision making at individual level has something to do with adoption of improved varieties by women farmers. This result may be so if the presence of many sources of influence on decision making by women farmers could enhance their adoption of innovations and improved practices. As evident from the result of this study that all the women farmers interviewed claimed one source of influence or the other on their decision to adopt or not the

improved varieties. Although majority of them (61.1%) claimed their neighbours and friends as source of influence on their decision making.

ii. Culture, norm and values has influence on adoption of innovations or improved varieties by women farmers. This may be true if by allowing women farmers to contribute to their community affairs would enhance their adoption of innovation and improved varieties. Also if by given consideration to the culture, norm and values of the women farmers' community before introducing any innovation or improved practices to them so as to bring resultant compatibility between the two, would enhance the adoption of innovation or improved varieties by women farmers. As evident from the result of this study, majority of the women farmers (88.4%) adopted the improved varieties because of their compatibility with their farming culture.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY

5.1.1 Statement of Research Problem

Adoption is very crucial to the success of any innovation. It is a yardstick for evaluating the success of any innovation among its target audience.

There are certain factors (both external and internal) that could influence the decision of an individual to adopt an innovation or not to adopt it. The external factors are those of the community in which an individual exist, otherwise called situational factors, and the characteristics of the innovation itself. Internal factors of influence consist of the demographic and socio-economic characteristics of an individual who is to make the decision as to whether to adopt or not to adopt the innovation (adoption behaviour). The preknowledge of the influence of these factors on the adoption bahaviour of the target audience will help agricultural programme implementors to successfully manipulate the programme to suit these factors so as to enhance mass-adoption of the innovation about to be introduced.

Women farmers are important and significant target audience for many agricultural programmes because of their indispensable role as producers of agriculural commodities. Lack of proper knowledge of factors influencing the adoption behaviour of these women farmers might have hindered the success of many grandiose and promising agricultural programmes which could have probably brought Nigeria to a level of self sustenance in food and raw materials production.

The purpose of the study was to identify these factors that influence adoption behaviour of women farmers in respect of improved cassava varieties.

5.1.2 Objectives of the study

1. To determine the level of awareness of women farmers in rural areas of Oke-Ogun in Oyo State, about improved cassava varieties.

   The result of this study shows that all(100%) the women farmers interviewed were aware of the improved cassava varieties. This implies that there is a high level of awareness about improved cassava varieties among the women farmers.

2. To identify the demographic and socio-economic characteristics of women farmers in rural areas of Oke-Ogun in Oyo State which influence their adoption of improved cassava varities.

   It was found in this study that demographic and socio-economic characteristics of women farmers such as: number of children assisting in farm work; number of years of formal education; membership of cooperative societies, sources of credit; income; and sources of acquiring farmland, have influence on their adoption of improved cassava varieties.

3. To determine how the perceived characteristics of the improved cassava varieties influence their adoption by women farmers in rural areas in Oyo State.

   The result of this study shows that the perceived characteristics of the improved cassava varieties such as cheap/economical; relative advantage (higher yield); easy planting mechanism, compatibility with farming culture;

and availability have strong influence (contingency coefficient of 0.707=71%) on their adoption by women farmers. It was also found that perceived characteristics of the improved varieties, such as: cheap/economical (r = -0.027), and complexity (r = -0.018) have negative correlation coefficient with their adoption by women farmers.

4. To identify the situational factors influencing adoption of improved cassava varieties by women farmers in rural areas of Oke-Ogun in Oyo State.

   The result of this study shows significant relationship between situational factors, such as decision making at individual level, leadership patterns, and adoption of improved cassava varieties by women farmers. Positive regression coefficient showing relationship was found between decision making at individual level, culture, norm, and values, and adoption of improved cassava varieties by women farmers.

5. To assess the level of adoption of the improved cassava varieties among women farmers in rural areas of Oke-Ogun.

   The result of this study shows a very high level of adoption of improved cassava varieties among women farmers: about 90% have adopted.

5.1.3 Result of Tested Hypotheses:

The following sets of null hypotheses were set and tested for the study:

i. There is no significant relationship between selected demographic and socio-economic characteristics of women farmers, namely; age, marital status, number of children assisting in farm works, number of years of formal

education, membership of co-operative societies, sources of credit, income, method of acquisition of farmland, and adoption of improved cassava varieties.

ii. There is no significant relationship between selected perceived characteristics of the improved cassava varieties, namely; cost, relative advantage (higher yield), complexity of the planting mechanisms, compatibility with culture, availability, and adoption of improved cassava varieties by women farmers in rural areas of Oke-Ogun, Oyo State.

iii. There is no significant relationship between selected situational community factors, namely; decision making at individual level, culture, norn, and values, leadership patterns, and adoption of improved cassava varieties by women farmers in rural areas of Oke-Ogun, Oyo State.

5.1.4 Results of Tested Hypothesis

i. There was a non significant but negative relationship between age and adoption of agricultural innovations or improved practices by women farmers.

ii. There was a non-significant but negative relationship between marital status and adoption of agricultural innovations or improved practices by women farmers.

iii. There was significant relationship between membership of co-operative society and adoption of agricultural innovations or improved practices by women farmers.

iv. There was positive relationship between number of children assisting in farm work, number of years of formal education, membership of cooperative

societies, sources of credit, income, sources of acquiring farm land and adoption of agricultural innovations or improved practices by women farmers.

v. There were significant relationships between characteristics of innovations or improved practices and their adoption by women farmers.

vi. There were significant relationships between situational or community factors such as decision making at individual level, leadership patterns and adoption of agricultural innovation or improved practices by women farmers.

vii. There is no significant relationship between culture, norm, and values and adoption of agricultural innovations or improved practices.

viii. There was significant and positive relationship between age of women farmers and (a) their marital status; (b) number of children assisting them in farm works.

ix. There was significant and positive relationship between marital status of women farmers and number of children assisting in farm work.

x. There was significant and negative relationship between the marital status of women farmers and their number of years of formal education.

xi. There was significant and positive relationship between number of children assisting in farm work and membership of co-operative society.

xii. There was significant and positive relationship between sources of credit to women farmers and (a) number of children assisting in farm work; (b) membership of co-operative society.

5.1.5 Methodology of the Study

Three Local Government Areas, namely; Iseyin, Itesiwaju, and Kajola were selected in Oke-Ogun area of Oyo State based on geographical centrality, extent of cassava cultivation, the proportion of women farmers and accessibility. Proportional to the number of farming communities in each selected Local Government Area: nine farming communities from Iseyin Local Government, six from Itesiwaju Local Government, and three from Kajola Local Government were selected. Proportional to the number of women farmers in each farming community, eighty women farmers were selected randomly throughout Iseyin Local Government Area, forty-five were randomly selected throughout Itesiwaju Local Government Area, while thirty women farmers were randomly selected from Kajola Local Government Area, to give a total of one-hundred and fifty-five women farmers as respondents for the study.

Interview schedules duly pretested before use were employed to elicit information from the respondents. The dependent variable for the study was the adoption of the improved cassava varieties, while the independent variables were personal and socio-economical characteristics of the respondents, characteristics of the improved cassava varieties, and the situational or community factors.

5.1.6 Analysis of Data

Appropriate descriptive statistical tools like frequency counts, percentages, means, pie and bar charts and graphs were

used to analyse the data collected. Appropriate inferential statistical tools like regression analysis, multiple regression, correlation analysis and chi-square analysis

were used to show the relationship between the dependent and independent variables in testing the null hypotheses set for the study.

5.2 SUMMARY OF FINDINGS

5.2.1 Demographic and Socio-economic Characteristics of the Respondents

Majority of the respondents were in their middle age. This is justified by the mean value of 37.1 years of age. Islam is the most popular religion (44.5%), followed by Christianity (41.3%), and then traditional religion (12.4%).

Majority of the respondents (81.30%) were married.

Only 26.5% of the respondents claimed that they don't have any child assisting them in their farm works.

About 22.6% of the respondents did not attend any formal school.

Majority of the respondents (50.3%) did not belong to any co-operative society. Neighbours, friends, and relatives were the major source of information to majority of the respondents (73.5%).

Farming is the major occupation of the majority of the respondents (87.1%).

Majority of the respondents (51.3%) claimed to be using their husbands's land. About 24.7% inherited theirs, 8.23% rented theirs, 7.0% were farming on village land, 6.3% got theirs as gift while about 2.5% bought their land.

The respondents claimed that they reared animals such as poultry birds (hens and ducks), goats and sheep.

Personal (35.3%), co-operative society (27.6%), husband (16.0%), relatives (10.3%), bank (9.0%), and friends (1.9%), were the sources of credit to the respondents.

Majority of the respondents (54.2%) were earning above ₦30,000 per annum.

5.2.2 Adoption Index

All the respondents had heard about the improved cassava varieties, with the highest awareness created in 1994 (27.7%).

Majority of the respondents (90.3%) have adopted the improved cassava varieties between 1990 to 1996. Majority (59.9%) adopted because of the relative advantage (higher yield) 14.4% adopted because of the compatibility with culture, few (12.8%) adopted because of its cheapness, very few (6.4%) adopted because of availability.

Neighbours and friends (61.1%), community attitude (12.8), Extension agents (12.8%), relatives (10.5%), and mass media (2.9%) were sources of influence on adoption decision of the respondents.

About 43.2% of the respondents have convinced between one to three people, 36.7% have convinced more than three other people, while only 20% have not been able to convince anybody to adopt the improved cassava varieties.

In the past two years, about 45.8% of the respondents have been called upon one to three times, 9.7% more than three times, while 44.5% have not been called upon at any time to contribute to community affairs.

Majority of the respondents (78.7%) claimed that their community would accept any woman innovator and further enquiry about the innovation would be made from her. About 11.0% were of the opinion that such a woman innovator would be

scolded and gossiped about in their community, while very few (1.9%) claimed that the people in their community would withdraw from such a woman innovator.

5.3 CONCLUSIONS

The following conclusions were drawn based on the major findings of this study.

i. Majority of the women farmers in Oke-Ogun area of Oyo State were in their middle age and married, but with low level of education.

ii. The most common source of information to women farmers is neighbours, friends and relatives.

iii. Personal, co-operative societies, and husbands were the most common sources of credit to women farmers.

iv. Women farmers were not normally privileged to inherit land for their farming activities.

v. Lack of farm record keeping, which gives rise to inability to estimate annual income, was common among women farmers.

vi. All the women farmers were aware of the improved cassava varieties while majority of them have adopted.

vii. Women farmers would adopt an agricultural innovation when such innovation is of high relative advantage (higher yield), cheap/economical, easily available, compatible with culture, and, possesses easy planting mechanisms.

viii. Neighbours and friends have more influence on adoption decision of women farmers than their husbands, community attitude, extension agent, relatives, or mass media.

ix. Women farmers can easily convince others to adopt, hence they can be successfully used as Agents, Medium, and Targets for developing agriculture and consequently the rural areas.

x. Membership of co-operative society has significant relationship with adoption of agricultural innovation by women farmers.

xi. The characteristics of agricultural innovation (such as cheapness, relative advantage, easy planting mechanism, compatibility with culture, and availability) have significant relationships with their adoption by women farmers.

xii. Individual decision making and the leadership pattern of the community have significant relationship with adoption of agricultural practices by women farmers.

5.4 RECOMMENDATIONS

The following recommendations are given based on the major findings of this study.

i. Young and middle aged women at their early marital life or yet to be married adopt innovation faster and more easily hence, age-group and marital status of any group of women farmers should be taken into consideration before introducing any innovation to them.

ii. Other sources of credit, especially from the bank, should be made easily available to women farmers.

iii. Mass media, as a very efficient and wider source of information, should be made easily available and accessible to women farmers.

iv. The customary laws that do not give room for women inheriting landed properties should be re-visited to allow women to enjoy this capcity to aquire farm land in our communities.

v. Co-operative societies should be strengthened the more and educational programmes on its advantages mounted to encourage women farmers to join and enjoy all the economic and social benefits of co-operative society in their communities

vi. In order for any agricultural innovation to gain mass adoption among women farmers, it must be of high relative advantage (high yields), cheap or economical, compatible with the existing culture in the society, easily available and simple to understand.

vii. Better ways of reducing illiteracy, especially among women in rural areas, should be undertaken by the government.

When all these recommendations are actively implemented, new strategies to get women to adopt new and improved agricultural practices would evolve, which will consequently lead to development in agriculture and in the whole national economy.

5.5 SUGGESTIONS FOR FURTHER STUDIES

This study has been able to identify the adoption behaviour of women farmers with specific reference to factors that influence adoption bahaviour, such as personal and socio-econnomic characteristics of women farmers, characteristics of the innovation, and community situational factors. These have been extensively considered in respect to their influence on the adoption of an innovation or improved varieties by women farmers. However, some areas are yet to be studied either more intensively

or newly. The following titles are therefore suggesteed for further studies on the adoption of agricultural innovations or improved varieties by women farmers:

i. The adoption period of women farmers.

ii. Factors influencing diffusion rates of information on agricultural innovations or improved varieties among women farmers

iii. The impact of extension agent characteristics (personal or socio-economic) on the adoption of agricultural innovations or improved varieties by women farmers;

iv. The influence or impact of women leaders and women groups on the adoption of agricultural innnovations or improved varieties and involvement of participation of women farmers in agricultural programmes.

v. Culture, norms, and values of a community, and adoption of agricultural innovations or improved varieties by women farmers.

vi. Accessibility of women farmers to rural social amenities.

vii. Rural women and rural-urban youth migration.

viii. Training of women farmers on the establishment of small scale industries in rural areas.

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APPENDIX

INTERVIEW SCHEDULE FOR WOMEN FARMERS

DEPARTMENT OF AGRICULTURE EXTENSION AND RURAL SOCIOLOGY

FACULTY OF AGRICULTURE, OBAFEMI AWOLOWO UNIVERSITY ILE-IFE

ADOPTION OF IMPROVED CASSAVA VARIETIES BY WOMEN FARMERS IN RURAL AREAS OF OKE-OGUN, OYO STATE

INTERVIEW SCHEDULE

DATE: **INTERVIEWER**

NAME OF VILLAGE

INTRODUCTION STATEMENT TO THE RESPONDENT

Dear Ma,

I am from Department of Agricultural Extension and Rural Sociology, Faculty of Agriculture, Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria.

I am conducting a research on the adoption behavioural tendency of women farmers towards agricultural innovations. The study area is Oke-Ogun in Oyo State. Your co-operation and willingness in supplying the needed information will go a long way in producing the end result of helping the women farmers to improve their agricultural productivities and their general standard of living, as well as contributing to the development of agriculture nationwide.

All responses would be treated in absolute confidence.

Thank you and God bless you.

OLANIYAN OLANIKE F.

A. ADOPTION INDEX

1. Please indicate what stage in the adoption process of the improved cassava varieties you are presently.

Improved cassava varieties	Awareness/year	Interest	Evaluation	Trial	Adoption/year
i. TMS 30572					
ii. TMS 30555					
iii. TMS 4(2)1425					

2a. Why did you adopt? (if not yet at adoption stage, go to question 3).

i. Cheap/economical

ii. Relative advantage (higher yield)

iii. Planting mechanisms easy to understand

iv. Compatibility with some of our cultures

v. Availability

2b. Are you still planting the improved cassava varieties?

Yes:....., No:.....

2c. If no, why did you stop planting?

i. Costly

ii. Yield lesser

iii. Planting mechanism not easy to understand

iv. Not compatible with some of our cultures

v. Not easily available

3. If no, why did you not adopt?

i. Costly

ii. Yield lesser (relative advantage)

iii. Planting mechanisms are not easy to understand

iv. Not compatible with some of our cultures

v. Not easily available.

4. How did you get to know about the improved cassava varieties for the first time?

SOURCES OF INFORMATION

Improved cassava varieties	Mass medias	Neighbours, friend, relative	Govt. Agric. Agencies	Salesmen and Dealers
i. TMS 30572				
ii. TMS 30555				
iii. TMS 4(2)1425				

5. Did the improved cassava varieties increase yield or income form cassava?

i. Yes:....., ii. No:.....

6. If yes to question 5 above, please supply the following information

Crop	Year/yield/Ha (tonnes)	Total hectare	Total yield	Price/ha Total Income
Cassava	1992			
	1993			
	1994			
	1995			
	1996			

7. If answer to question 5 above is no, why?

   i. I did not plant the varieties as recommended.

   ii. The improved varieties are not as good in yield as the one ones.

   iii. The extension officer did not assist me.

   iv. There is no market for the produce

   v. Farm disaster (fire, insect, diseases, etc.)

B. SITUATIONAL FACTORS/ COMMUNITY STRUCTURE

i. DECISION MAKING AT INDIVIDUAL LEVEL

8. Your decision to adopt or not was influenced by:

   (answer yes or no)

Improved cassava varieties		Husband	Relative	Neighbours and Friends	Mass Media	Community attitude	Extension Agent
i.	TMS 30572						
ii.	TMS 30555						
iii.	TMS 4(2)1425						

9. How long did it takes you form first knowing about the improved cassava varieties to final adoption?

Improved Cassava Varieties		Period of time between awareness and final Adoption
i.	TMS 30572	
ii.	TMS 30555	
iii.	TMS 4(2)1425	

ii. CULTURE, NORMS AND VALUES

11. How many times have you been called upon or consulted to contributed to community affairs in the last 2 years. .....

12. Please, indicate your feelings to the flowing questions:

Do men in this community	SA	A	N	D	SD
i. Appreciate of women?					
ii. Protect their own selfish interest alone					
iii. Are suspicious of women?					
iv. Do not trust women?					
v. Do not listen to women views					
vi. Do not consider women as co-equals?					
vii. Discriminate against					

Note: SA = Strongly Agreed, A = Agreed, N= Neutral, D = Disagree, SD = Strongly Disagreed.

iii. LEADERSHIP PATTERN

13. Please name at least 10 people you consider as leaders in your community

1. ..... iv. .....

ii. ..... vii. .....

iii. ..... viii. .....

iv. ..... ix. .....

v. ..... x. .....

14. How many of them are women?

15. How do you think people in this community would react to a woman who first adopt an innovation in your community?

    i. accept her and enquire further about the innovation from her

    ii. Withdraw from her

    ii. Scold and gossip about her.

    iv. Majority will not adopt that innovation because of that.

C. PERSONAL AND SOCIO-ECONOMIC CHARACTERISTICS

Please, I will like to know a bit about yourself.

16. How did are you in years?

17. What is your religion?

    i. Christianity

    ii. Islam

    iii. Traditional religion

18. Marital status

    i. Single ii. Married iii. Separated iv. Divorce

    v. Widowed

19. Number of children assisting in farm works.

    i. 0 ii. 1-3 iii. 4-6 iv. 7 and above

20. How many years of formal education have you?

    i. 0 ii. 1-5 iii 6 iv. 7-9 v. 10

21. Are you a member of any co-operative society?

    i. Yes ii. No

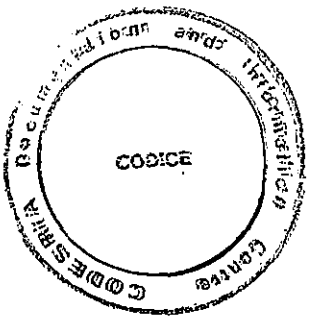
22. If no, What is the reasons?

i. Lack of interest in it

ii. lack of knowledge of its importance

iii. I was a member before but stop

iv. No response



23. Do you belong to any other social groups?

i. Yes ii. No

24. How did you acquire or obtain you farmland?

i. husband ii. Village land iii. Rent iv. Inheritance

v. Bought vi. Gift

25. What is the size of the land in hectare devoted to each of the following crops (3000 heaps = 1 ha)

crops		size of land in ha
i.	Cassava	
ii.	Yam	
iii.	Cocoyam	
iv.	Maize	
v.	Guinea Corn	
iv.	Melon	

29. What is your regular source of credit?

    i. Husband ii. Relatives iii. Friends

    iv. Co-operative society v. Bank vi. Personal

    vii. No response

30. What is your total income in naira?

31. Why do you cultivate cassava?

32. For sales only:..... For consumption only:.....

    For both:....

33. How do you sell you cassava produced?

    in raw forms:.... In processed forms:.....

    Both raw and processed forms:.....

34. If processed, who do the processing?

    By myself:..... By my children:.....

    By myself and my family:.....

35. Who normally help you in uprooting cassava stems for harvesting?

    I do it myself:..... My husband helps me:.....

    My children and relatives:..... By hired labourers:.....

    My self and my family:.....

36. Who do you normally sell your cassava produce to?

    Wholesalers:....., Retailers:.....

    Consumers:.....

37. Who carry out the following cassava processing?

	Self	Others	Not carried out
Gari			
Lafun			
Starch			
Fried			
Others (specified)			

38. Have you received any training on modern way of processing each of these processed cassava forms?

	Yes	No
Gari		
Lafun		
Starch		
Fried		
Others (specified)		

26. Please, what is your major and minor occupation?

		Primary	Secondary
i.	Farming		
ii.	Agro-processing		
iii.	Trading		
iv.	Sewing/Tailor in/Weaving		
v.	Hair dressing		
vi.	Laundry service		
vii.	Civil service		
viii.	Full time house wife		
ix.	Others (specify)		

27. What is your husband's occupation?

28. Please, how many of each of the following animals are your rearing?

Animals		Number
i.	Hen	
ii.	Duck	
iii.	Goat	
iv.	Sheep	
v.	Cattle	