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ACCESSIBILITY OF WOMEN'S GROUPS TO AGRICULTURAL EXTENSION SERVICES IN KENYA: AN EXPLORATORY AND DESCRIPTIVE STUDY OF FACTORS, NEEDS, AND PROBLEMS

DISsertATION

Presented in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy in the Graduate
School of The Ohio State University

By

Abdillahi S. Alawy, BS; MS.

The Ohio State University

1998

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Approved by

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Adviser

Graduate Program in Agricultural Education
ABSTRACT

The overall purpose of this study was to examine factors influencing accessibility of women's groups to agricultural Extension services in Kenya. The second purpose of the study was to investigate specific needs and interests of 348 farmers in 63 women's groups, and changes that can be made to improve agricultural Extension services to the women groups. The site was Kwale district, a place known both for women's collective organizing and as the setting of long-term Extension programs. But there was no information available on whether or how Extension policies and projects acknowledged or responded to women's agricultural and conservation groups. All data was collected in 1996-1997 in Kwale district Kenya. This research used a multi-stage, multi-method research approach that combined in-depth face to face interviews, participant observation, focus group interviews, document evaluation, and structured questionnaires.

Findings indicated that Extension services were biased towards, Christians, ethnic groups that did not originate from Kwale, and well established groups located near the main roads that grew mixed crops. Additionally, since most agents and Extension administrators were people not originating from Kwale, there were long-term stereotypical attitudes concerning agents/farmers compatibility, agents' perceptions of the local indigenous people and general civil servant composition against the locals.
Although most of the women's groups had a number of projects, soil conservation and farming was the main activities of more than 80% of the participating groups. Groups that were involved in cash-generating activities exhibited reduced commitment to farming and conservation activities. Participants cited farming inputs, tools, equipment, and agricultural loans as their main needs. The main problem cited was the lack of all good roads which led to problems of obtaining farm inputs, Extension training, loans, and incentives for their agricultural work.

Female participants agreed that they derived a lot of benefits from being members of the women's groups. Among the important benefits received by members were: Extension training and services, cash profit from sales of their produce, financial assistance, food, and sharing of knowledge and learned agricultural skills.

Recommendations included increasing efforts on the part of the Ministry of Agriculture in assisting women's groups to improve their farming and conservation activities in the district. Extension approaches and programs should equally target all the different groups of farmers in the district. Regular Extension and subsidized or loaned farming equipment and farm inputs should be equally extended to the women's groups whether located in the remote areas or near the main roads.
Dedicated to the women agricultural producers in Kwale and the organizations they form in the execution of survival struggles
ACKNOWLEDGMENTS

I would like to express my heartfelt gratitude to my advisor, Professor N. L. McCaslin, under whose guidance the study was conducted, analyzed, written, and presented. His support, provided guidance, assistance and friendship during my academic program, and also, when I was conducting this dissertation research in Kenya. I would also like to thank members of both my dissertation and program committees, Dr. Cathy Rakowski, for her support in developing my research topic, encouragement, and the final development of my proposal for funding. Dr. R. D. Safrit and R.A. Agunga, for supporting my research efforts, and preparing me for the field and the world at large.

I would like also to express thanks to my supporter and friend Dr. Alamin Mazrui of the Department of African-American and African Studies whose assistance provided all the motivation, guidance, and understanding which prepared me for this project. This study would not have been possible without the generous cooperation of Dr. A. A. Aboud of Egerton University for his assistance during the initial planning of the study in Egerton University.

I am also registering my gratitude to the Rockefeller Foundation for supporting this research under the African Dissertation Internship Award Program. Their financial support enabled me to stay in Kenya for twelve months collecting data for the study. I would like to express special thanks to Dr. Lynne Borden, with whom I worked as a
Graduate Research Associate. Her sustainable support has been very valuable during the writing phase of this study. I also recognize my colleagues, the other graduate students, whose company and support has been immense in instrumentation, pilot testing and throughout data analysis phase. With this regard I salute Dr. Ruben Nieto, Dr. Dilek Budak, Edmond Lyatuu and Dr. Patrick Bamwine.

I would like to express my deep gratitude to my parents, uncles, aunts, brothers, sisters, and cousins, whose support has been present for all these years that I have been out of Kenya and Tanzania. I am very grateful to my wife Judith and my son for being there for me and whose understanding, patience, and love sustained me during these long years of waiting.

Last but not least, I would like to thank all the Extension agents, administrators, Subject Matter Specialists, and district administrators for their assistance. I am deeply indebted to A. Dibbo, Emily Mwadime, Mary Mutune, and the entire divisional Extension staff in the Kubo, Msambweni and Matuga. I wish to thank all my respondents who enthusiastically assisted us in collecting our data.
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<td>1991</td>
<td>Bachelor of Science (Agricultural Economic), The Ohio State University, Columbus, Ohio.</td>
</tr>
<tr>
<td>1991-1997</td>
<td>Graduate Teaching Associate, Department of African-American</td>
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<td>1996-1997</td>
<td>Adjunct Agricultural Research Officer, Ministry of Agriculture Kwale.</td>
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<tr>
<td>1977-1998</td>
<td>Graduate Research Associate, Youth Programs, Department of</td>
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<td>Human and Community Resource Development-The Ohio State University</td>
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PUBLICATIONS


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- Extension Education Dr. R. D. Safrit
• International Development          Dr. R. A. Agung

• Rural Sociology and Women Studies  Dr. C. A. Rakowski
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CHAPTER 1

INTRODUCTION

For over twenty-five years, researchers have drawn attention to the contradiction between the "invisibility" of African rural women in development plans and programs and women's central role in agrarian economies and environmental initiatives (Boserup, 1970; Melkote, 1988; Mutiso, 1987; Wamalwa, 1991). Yet, the abundance of information now available to planners on women farmers has not eradicated obstacles to women's access to technology and Extension services (Brydon & Chant 1989; Njeuma, 1995). Many theories have been advanced to explain this problem (Hay & Stitcher, 1984; Karl, 1984; Okojie, 1996; Suda, 1996; World Bank, 1990). Some focus on strategic problems such as gender roles and relations that limit women's mobility (Elson, 1991; Kinyanjui, 1995; Moser, 1991; Parpart, 1989), education (Njeuma, 1995), autonomy (Afshar 1991), and control over land and decision making power (Khasiani, 1992). Others focus on logistical and practical constraints such as women's work load and poor transportation (Buvinic, & Yudelman 1989; Lucas, 1995). Still others (Omondi, 1992; Spring, 1987; Staudt, 1985, 1990) point to the problems inherent in Extension services and technology transfer, including bias on the part of Extension agents, low budgets for women's projects, and the general neglect of certain regions and its people by the government.
One factor that has not received attention is the link between rural women's work strategies and implementation strategies of Extension policies. In particular, the literature on Extension services for African men and women does not address a common practice among African women—the formation of grassroots groups for farming and conservation.

This oversight is even more pronounced when considered in light of the growing body of studies of African women's collective organizations as a mechanism for collective identity, self-help, and community development (Jiggins, 1989; Kayongo-Male, 1983). If African women's organizing is important to their roles as producers, then Extension services would need to work with women in groups. Yet, most literature on Extension programs (Buvinic & Mehra, 1990; Moser, 1991; Spring, 1987) reveals implicit or explicit assumptions that both men and women farmers are individuals or participate in a family farming system.

Professionals and educators around the globe tend to agree that Extension approaches require different methods and skills in affecting changes in the rural areas (Spring, 1987; Staudt, 1991). In Kenya, and many developing countries, Extension professionals are exploring ways and means of working with these rural organizations largely as a way of maximizing farmers' contact with little resources available in these areas (World Bank, 1989; Staudt, 1990). Kenya has seriously taken up the challenges of supporting farmers' groups (World Bank, 1993). The belief is that groups provide an appropriate target for Extension messages and offering these services at a reasonable cost and time. It is imperative, therefore, to study the programs and the women's groups to ascertain the equity of the services as well as the benefits received by the groups.
Background Information on Kenya and the Kwale District

Kenya has had growing stresses within its agricultural sector, on the one hand, and its women's roles in agriculture, on the other. Kenya is primarily an agricultural nation. Out of its 24 million people, 78 percent live in the rural areas and are involved in agriculture (International Fund for Agricultural Development-IFAD, 1992). Although the country's area is 224,960 in square miles, only 26 percent is arable. With a population growth rate of about four percent annually, one of the highest in the world, Kenya's agriculture and natural resources are under constant pressure to provide more for its population. Kenya's population is presently about 24 million but could rise to 80 million by the year 2020 (International Fund for Agricultural Development-IFAD, 1992). Rapid metropolitan growth and cash crop emphasis has dramatically drained household labor, thus causing much stress on poor rural people, especially women in the villages.

The Kwale District of Kenya is located about 400 miles from the country's capital, Nairobi, and some 20 miles from Mombasa, the nation's second largest city. Kwale is an area of agricultural importance with an appreciable share in the production of major cash crops and livestock numbers. For instance, Kwale accounts for nearly half of the national cashew and coconut production; other cash crops include simsim (oil crop), cotton, bixa, and mangoes. Among the food crops produced in the District are maize, bananas, cassava, millets, beans, fresh vegetables and fruits.

Most of Kwale District is however, characterized by a marginal environment with severely erodible soils and unpredictable and fluctuating rainfall patterns (United Nation Development Programme/ Prowess, 1991). For this reason, the Extension service and the
farmers, both men and women, are forced by their circumstances to address environmental issues as an integral part of their concerns with agricultural production. In 1985 the World Bank and the Kenyan government introduced the Training and Visit (T&V) Extension program in the District to focus mainly on problems of dry-land farming. However, no studies have been conducted to determine how traditional or innovative Extension field strategies are operating in Kwale or the extent to which they support local activities, particularly the group-farming and soil and water conservation activities which occupy numerous women’s groups in the district.

Many women’s groups in Kwale were initially associated with the Kwale Water Supply and Sanitation Project which was established in 1983 under the auspices of the Swedish International Development Authority (Swedish International Development Authority (SIDA)) and the Government of Kenya (United Nations Development Programme/Prowess, 1991) in response to severe water-borne diseases including diarrhea and cholera. Village women’s groups throughout the District served as water committees and water-pumps care-takers. These initiatives motivated some women’s groups to incorporate into their functions other production and conservation activities including horticulture, poultry, tree planting, and soil conservation (United Nations Development Programme/Prowess). Due to increased land degradation and water problems, some of the groups engaged solely on helping each other in group conservation and crop production activities. The focus here is on those groups defined as farming and conservation women’s groups. However, in a pilot survey undertaken by the researcher between July and August, 1994 a number of women in the local groups expressed the
view that there was inadequate and perhaps decreasing support for women’s groups from
government ministries and agencies, including Extension’s conservation units in the
District. In this respect, Extension strategies in Kwale were perhaps becoming more like
the individual-oriented Extension work strategies prevalent in Lamu district where the
researcher was a Divisional Agricultural Extension Officer between 1985 and 1989. The
Lamu and Kwale districts are both in the Coast Province with similar climatic conditions.
Occasionally Extension agents (Subject Matter Specialists) from both districts have met to
exchange ideas. One of the researcher’s primary duties during that time was coordinating
soil and water conservation on the 10 islands of Faza Division.

The pilot study conducted by the researchers in 1994 also revealed that local
Extension workers in the district recognized the importance of community-based groups.
The Extension workers were encouraged to use T&V Extension approaches introduced in
1985 (World Bank, 1993) that placed higher priority on working with individual contact
farmers and large-scale cash-cropping enterprises over village groups. Thus, Kwale
District constituted a research setting where active, locally organized groups were
important food producers and environmental care-takers, but have not been a determining
factor in the designing of Extension services. Some agents, however, felt that steps taken
by the Extension department to adapt some of the programs to group needs could be
successful in addressing the problems of women’s groups. Few men’s groups have existed
in Kwale, and where they do exist, they have usually been part of other networks such as
fishing or cash crop cooperatives societies, dance groups, and members of government
committees and school boards. Rarely have men joined in community conservation and
farming groups because such groups were mainly composed of women, and Islamic customs discouraged the free interactions of men and women. In addition, Structural Adjustments Programs (SAPs) have led to increased emphasis on cash cropping for export which have made women farmers work more without increasing their real incomes. But, no study has been undertaken on the adaptations that have been made, or their appropriateness and effectiveness as regards the women’s groups. Nor has any study been carried out on the needs or functioning of women’s autonomous farming and conservation groups.

**Important Agricultural Information About Kwale District**

This section will review important information related to agricultural development in Kwale district. The objectives of the Extension Ministry will be listed, followed by a short discussion of the physical features affecting agricultural production in the district. This description also will focus on Kwale’s geographical position, topography, soils, rainfall, land use and important crops grown in the district.

**Agricultural Extension’s Objectives**

The main objectives of the Ministry of Agriculture-Kwale were to: (a) contribute to the overall national development goals of poverty alleviation and equitable income distribution; (b) contribute to acquiring food security and elimination of malnutrition, thereby creating employment and income earning opportunities; and (c) earn foreign exchange, and import substitution. With these objectives, the farming community was encouraged to (a) produce and market a wide range of food crops; (b) produce crops for export; and (c) provide raw materials for the local industries.
Location, Topography and Soils

Kwale district is located in the coastal province of Kenya in E. Africa (see Figure 1). It borders with the United Republic of Tanzania on the south, Taita-Taveta district on the west, Kilifi district on the north, and Mombasa district and the Indian Ocean on the east. The district had a total of 8,322 square kilometers, of which 7,313 square kilometers were considered to be of agricultural importance.

Kwale has three distinct topographical divisions. (a) the Coastal Plain which lies between 0-30 meters above sea level; (b) the Coastal Uplands (30-462 meters above sea level); and (c) the Nyiika Plateau (463-842 meters above sea level). The Nyiika Plateau has been particularly prone to erosion and is located in the western side of the district.

Soils vary according to the topography of the land. Generally, Kwale soils have been degraded through different kinds of erosion agents. However, of special mention is the unplanned clearing of bushes and vegetative covers, deforestation, overgrazing and accelerated sand harvesting—which resulted from the fast growing population in Kwale and the nearby towns. Due to sandy top-soils and low organic matter content Kwale soils are generally of poor fertility. The four soil types in Kwale are:

- The Coastal Plain Soils are composed of deep sandy loams to sandy clays that were derived from the coral limestone, and coastal sands. The sandy clays have poor soil structures and are higher in exchangeable sodium.

- Coastal Upland Soils are more diverse in soil characteristics because they were derived from shells and limestone. These soils have been more fertile, better drained and chemically stable than the coastal plain soils.

Figure 1: Map of south-east Kenya showing Kwale and the neighboring districts
• The Nyika Plateau Soils have been developed from rocks. These soils varied in texture from the poorly drained, deep saline/sodic cracking clay with very thin sandy clay loam topsoil (solonetz) to the well drained, deep loams and imperfectly drained, deep sandy clays (ferralsols).

• The Flood Plains Soils have developed from rock sediments. They are imperfectly drained to well drained and are very deep, brown to dark brown sandy loam.

Rainfall

The annual average rainfall ranges between 500-1400mm, (see Figure 2). There are two rainfall seasons in Kwale District. The long rains begin in March/April and continue up to June. Normally, the short rains come from September to the end of November. For farming purposes the short rains are more important in the upper areas of the district than on the coastal belt. The amount of rainfall and the length of the rainy season reduces as you move in-land from the coastal belt and from south to the north. The unreliability of the rains and evapotranspiration increases as you move from the coastal belt to the mainland zones.

Land Use

Between 1991 and 1995, the area under crop production remained constant at nine percent of the total agricultural land available (District Agricultural Officer Report, 1996). The major crops grown in the district included coconut, cashew, maize, cassava, citrus, bixa, pulses, mangoes, rice, vegetables, sorghum and millets. The most important food crops and cash crops in the district are discussed below.

Figure 2: Annual average rainfall trends for Kwale district
Food crops. Maize and cassava were the most important food crops in Kwale. Other crops grown by farmers in the district were pulses (beans, cowpeas, peas and other legumes) and rice in the wet areas of the district, (see Figure 3). Sorghum and millets, although drought resistant and indigenous to the district, were sparsely grown. Maize had a higher production potential and less susceptible to pests and diseases. Maize was more vulnerable to drought and flooding thus required well drained and fertile soils. Cassava was much less demanding in terms of labor, water, and soil fertility and could be grown throughout the year. Cassava served as an “insurance” food crop during poor harvests because it remained on the field throughout the farming season. The one major disease that caused considerable yield reduction in the area was the cassava mosaic. Although maize was the main food crop, its production was still insufficient to feed the district’s population, and for this reason a lot of food was imported from outside. Cassava, on the other hand, was sufficiently produced in most parts of the district. Leguminous crops which were grown in small quantities included beans, cowpeas, peanuts and bambara nuts.

Vegetables were grown throughout the district but also in very small quantities.

Cash crops. The main cash crops were tree crops, namely, coconut, cashews, citrus, bixa, and mangoes. Although considerable potential for tree crops existed, there was very little production which went on for these crops. Other potential cash crops included, pineapples, guavas, papayas (papaws), sugar-cane, vegetables, and a variety of oil-seed crops such as sesame seeds (simsim), sunflower, soybean, and peanuts. Oilseed crop production had a good potential in the district but its production and development was hindered by poor marketing structures and pricing system.

Figure 3: The agro-ecological zones of Kwale showing where crops are grown
Most of the farming in the district was undertaken by small-scale farmers. Table 1 summarizes some important information about these farm operations.

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Source: The District Agricultural Officer Kwale-Kenya.

Table 1: Farming information of Kwale district.

Statement of the Problem

Historically, women in Africa have been pivotal in agricultural production and have contributed immensely, individually or collectively, to environmental conservation work. Increased emphasis on cash cropping and male migration out of the rural areas have further accentuated the centrality of women in food production for local consumption. Yet, over the years, women have not received the level of support from agricultural service agencies that is commensurate with their primacy in food production or rural communities (Afshar, 1991; Fry, 1994; Jiggins, 1989; Staudt, 1985). Gaps between Extension services and women producers have also been found to exist in Kenya and a number of other African countries (Buvinic & Mehra, 1990; Staudt, 1985; Spring, 1987).
Increasingly, women have come to rely on self-help groups to meet their needs. Such groups are similar to indigenous organizations that have operated in Africa even before the colonial era and have provided much needed support to their members in time of acute disasters such as famine, drought or disease. In spite of their importance to women, and potential contribution to national agricultural production and conservation, most groups have had only limited access to the services and resources provided by the local development agencies (Mutiso, 1987; Mwagiru, 1985; Thomas, 1985). Studies of Extension programs have suggested that Extension agencies have been overwhelmingly oriented towards the individual farmer or to family farming systems (Mutiso, 1987; Staudt, 1990). Inattention to the problems and needs of collective groups is likely to exacerbate the marginalization of women in programs and policies.

There have been a number of studies of women groups in Kenya (Morna, 1993; Mutiso, 1987; Wamalwa, 1987; World Bank, 1989). Much of this research, however, has been descriptive in nature and focused mostly on the formation, activities, characteristics, and functions of these groups. Few have explicitly addressed the needs and interests of the groups in terms of their broader implications for national development policies. More remarkable is the complete absence of research on the implementation of food production and soil and water conservation programs of the Extension department as they relate to women’s groups. A logical question would be how sensitive are Extension policies related to food production and soil and water conservation to the needs and interests of different women’s groups, and how well do their approaches fit the demands of women’s collective work strategies? There is no information available on whether or how
Extension policies and projects acknowledge or respond to women’s productive and conservation groups. It also remains to be seen whether the problems and needs identified with self-organized group farming and conservation are similar to or different from those of individual farmers or farming families (and whether Extension agents are aware of this).

**Purpose and Objectives of the Study**

The main purpose of this research was to investigate the accessibility of women’s groups, concerned with food production and soil and water conservation, to Extension programs. The study also investigated the needs and interests of different women’s groups, and how well Extension services have been able to design their approaches to fit the demands of the women’s work strategies. Within the context of increasing funding and activities towards reaching women’s groups in the rural areas, this study aimed at finding out if these efforts had translated into increased relevancy of Extension services to all groups. In essence, do women’s groups see agricultural Extension as a source of assistance or just as a source of oppressive government structures which creates dependency and thus preventing them from achieving self-sufficiency in food and general development? The specific objectives of the study were to:

1. Describe women farmers on the following selected characteristics, (a) age, (b) ethnicity, (c) religion, (d) education, (e) language, (f) farm-sizes, (g) source of agricultural information, (h) original home, and (i) farm ownership and tittle.

2. Assess farmers’ perceptions of (a) rate of Extension agents’ visitation and their usefulness to the individual farmers, and (b) farmers’ rate of
attendance at the agricultural Extension training programs and the usefulness of the training programs to the individual farmers.

3. Determine the functions of the women's groups with regard to soil and water conservation and food production.

4. Examine immediate and long-term needs of the women farmers.

5. Ascertain problems faced by women farmers and their groups.

6. Assess Extension visitations and usefulness to the women's groups.

7. Determine members' benefits received from participating in women's groups.


9. Describe Extension agents on the following selected demographic characteristics: (a) age, (b) gender, (c) education, (d) language, (e) ethnicity, (f) religion, and (g) work experience.

10. Ascertain agents' perception of farmers' participation in Extension activities by gender with different delivery methods.

**Significance of the Study**

This study was expected to contribute to Extension education theory, knowledge, policy, and Extension programming. From an Extension education point of view, the study provided needed empirical data on conditions which impact women's group activities in Kenya and the implementation of agricultural Extension policies and programs for rural women's groups. The combination of qualitative and quantitative methods provided a detailed description of needs and the issues of interest to the women's groups.
and female farmers in general. Such data provided a basis for information regarding the
design of development and training packages for women's groups in Kenya, thus
improving the integration methodologies and support for women groups in development
projects. At the policy level, by examining women groups' needs and Extension program
implementation, the study contributed to an understanding of the fit between pre-existing
groups' needs and capacities with proposed development programs and provided
information on how to adapt better.

In assessing factors that influence Extension's accessibility, this study contributed
to the identification of relevant Extension strategies and enhancement of programs which
embody creative development planning for women. The study also provided information
for designing new and appropriate organizational linkages that are based on existing
relevant activities. This will link these groups to services provided by not only the
Extension department but other government and non-governmental agencies in the
district.

Lastly, the study identified strategies to improve Extension's information about
different groups' needs, and capacities. This study also described the characteristics of
women's farming and conservation groups, their tasks, objectives, problems, and
proposed solutions, and the content and implementation of Extension programs that
promote increased food production and conservation at the local level.

Definition of Terms

The author defined the following terms which were thought to be unfamiliar to the
reader. These terms have been listed below in alphabetical order.
Agricultural Extension

Agricultural Extension refers to an organized, non-formal educational activity, usually supported and/or operated by government (Swanson & Claar, 1984). Berger et al (1984) contended that agricultural Extension encompasses individual or group farmers’ training to spread new or more effective techniques, inputs and assistance in adapting research results to local conditions, applying research for better farming techniques, and obtaining feedback on farmers problems and practices.

Barazas

Barazas are village informal meetings usually called and held by the administrative personnel of the Office of the President of the government of Kenya. Attendance is compulsory for all people in the villages, be they government officers, employees, or civilians. Village Extension workers have been known to use this opportunity to reach farmers to relay Extension messages.

Contact Farmers

Contact farmers are local crop producers selected by Extension agents/supervisors to represent the rest of the farmers in a community. These farmers are visited and trained by the local agents with a sole purpose of transferring the Extension messages to the rest of the farmers. (Benor, 1987).

District

District refers to an administrative unit which is the focus of detailed planning and implementation of most agricultural and rural development projects. In a district all government departments, involved in rural development, have full representation.
According to Food and Agriculture Organization Report (1993), a district is a focal point for horizontal sectorial coordination as well as vertical coordination between national policies from "above" and community needs and aspirations from "below".

**Division**

A Division is a sub-division of a district, that refers to a relatively small administrative unit with an emphasis of implementing and enforcing government policies and regulation. Most government ministries are represented by individuals or teams of officers (FAO, 1993). A division is the closest administrative center from the various locations (main village centers), and sub-locations. On the average, there are about five to six divisions per each district.

**Extension Groups**

Extension groups are composed of mixed sexes of farmers, primarily formed or organized by Extension personnel. Membership can be as high as 40-50 farmers who receive direct agricultural assistance from Extension department—such as farming tools, seeds and fertilizers. Leadership is mostly provided by village Extension agents operating in the area.

**Mixed Group**

Mixed groups are local based groups mainly concerned with soil conservation projects in the villages. Membership composition is mixed, in terms of gender and ethnicity, and averages between 15-20 members. These groups may be self-formed, or most of the time, formed by an outside agencies such as Extension department, Ministry of Social Services. Members, most often, enjoy direct support from Extension department.
Subject Matter Specialists (SMSs)

Subject Matter Specialists are usually Ministry of Agriculture employees with university training. SMSs are the primary trainers of the village Extension agents and their immediate supervisors. They are responsible for checking the way in which recommended practices are being presented to the farmers in the field, and monitoring farmers reactions to the recommendations. (Benor, 1987)

Training and Visit System of Extension (T&V)

Training and visit is an agricultural Extension system which has been widely adopted by countries in the developing world. Its proponents describe it as being composed of: renewed professionalism, a single-line of command, concentration of effort, time-bound work, a field and farmer orientation, regular and continuous training, and two-way linkages between Extension and research (Benor, 1987)

Women’s Group

Women’s groups were described as locally formed groups by rural women, whose original objective was agriculturally oriented projects. At an average, the groups’ membership ranges from 10-20 women who collectively participate in their own crop production and/or soil conservation projects in the villages they live. They may or may not be directly supported by Extension departments. They elect their own leaders and most of them have a loose structured leadership. Although male membership was found in a few of the women’s groups, the name of these groups did not change. Most of these groups were officially registered with the Ministry of Social Services.
Basic Assumptions of the Study

Following are the basic assumptions used by the researcher in conducting this study. The researcher assumed that women farmers, both in groups and individually, clearly understood the questions and issues raised by the interviewers. The researcher also assumed that the responses given by the participating respondents were true and frank. It was also assumed that Extension agents and leaders interviewed, understood the questions and responded with accurate, valid and reliable answers. Considering previous literature on the subject of women’s groups in Kenya, it was also assumed that women farmers in Kenya have not been fully involved and integrated into the national Extension policies. Women’s invisibility in Extension programs therefore, was assumed to be due to, among other factors, lack of information on the women’s needs, and their work strategies in the rural areas.

Limitations of the Study

In measuring factors related to Extension accessibility, only the factors identified in the literature review and personal experiences of the researcher were included in the study questionnaires. The researcher was only able to interview the lowest and the highest ranked Extension personnel, (i.e., Extension agent) from the selected villages. The target population groups of rural women and men were purposively selected from three divisions of the district and not randomly selected from the entire population of Kwale district. Therefore, the results are only generalizable to the group studied in the three divisions of Kwale district.
Summary

This chapter included the following sections: (a) introduction, (b) background information on Kenya and the Kwale District, (c) important agricultural information about the district, (d) statement of the problem, (e) purpose and objectives of the study, (f) significance of the study, (g) definition of terms, (h) basic assumptions of the study, (i) limitations of the study and (j) summary. This dissertation is composed of the following chapters: Chapter 2 reviews the related literature and theories concerned with this study, and also present the contextual framework for the study. Chapter 3 presents the methodology applied in the study, and chapter 4 presents the findings. The summary, conclusions and recommendations will be presented in chapter 5.
CHAPTER 2

REVIEW OF LITERATURE

The study objectives identified in chapter one provided the focus of this review of literature. This chapter contains a review of related studies organized in the following manner: (a) women’s characteristics and their efforts in food production and environmental conservation; (b) accessibility of women’s groups to Extension; (c) self-help women’s groups; (d) the effectiveness of agricultural Extension services; (e) trends of Extension visitations; (f) Kwale district agricultural Extension and crops records for the 1992-1994 farming seasons; and (g) the conceptual framework for identifying factors influencing accessibility of women’s groups to agricultural Extension services in Kenya.

Women’s Characteristics and their Efforts in Food Production and Environmental Conservation

Kettel (1995) identified three socio-cultural issues regarding African women’s gender based activities in the use and conservation of the natural environment. The first concerned the cultural attributes and meaning of the natural environment which focused on women’s knowledge of the environment. Studies on women’s environmental knowledge have largely focused on the technical aspects of resource usage such as water and trees, but has failed to address the impact of women’s landscapes in relation to men’s or Extension agency landscapes (Braidotti et al, 1994; Kettel, 1995). Landscape was another concept which had been used to describe the relationship between people, gender,
and perceptions of the environment emerging from culturally and socially derived links. Kettel defined it as gender based distinctions that people have of the natural environment—symbolic interpretations of the natural world, of the specific ecozones that people occupy, and the network of social relations that locate people, collectively and individually, in relation to nature. Second, there has been a shift of focus to women as actors in environmental conservation and as activists. But women’s success has been limited by ineffective integration into and empowerment within the development agencies. The third socio-cultural issue was the collective form of women’s interaction with the natural environment. Women have usually interacted as participants in family and neighborhood based groups and networks (Kettel, 1995; Mbithi, 1973; Mutiso, 1987; Wacker, 1991).

Many studies have indicated that women farmers are the backbone of agriculture in sub-Saharan Africa, and their collective work in environmental conservation is becoming more visible although their marginalization is still on the increase (Collins, 1991; Fry, 1994; Jiggins 1989; Kettel, 1995; Parpart, 1989). Just as Kenyan rural women’s groups have become increasingly important in environmental management and food production, questions have arisen regarding the Extension departments ability to link these groups with their services, farm-credit and other organized supporting strategies. Several studies have also suggested that women farmers are denied full services and support from Extension departments because of a lack of specific policies addressing gender issues in planning and implementation stages of rural development programs (Afshar, 1991; Fry, 1994; Jiggins, 1989; Staudt, 1985).
There was a substantial amount of evidence from various parts of the world (Cernea, 1991; Devitt, 1982; Runge, 1983; Uphoff, 1984, Woodhouse & Ndiaye, 1991; Woodhouse, 1991), and from Kenya specifically, (IFAD, 1992; United Nations Department Fund/PROWESS, 1991; Wacker, 1991; World Bank, 1989) about the tremendous productive potential of group projects. However, problems which have hindered most of these groups occurred when they were taken over by Extension departments, after their initial project funding was depleted. Extension planners have often assumed that women groups were all the same and their problems could be solved through generally-applicable technological recommendations (Fry, 1994; Odell Jr., 1986). Yet, women’s groups differ in the composition of their members as well as their activities. In Kwale District the numerous women’s groups have differed in their religious and ethnic affiliation of their members as well as in the crops they produced—cash and/or food.

Understanding differences among groups has been important in designing specific Extension programs. Effective Extension has not been in the technological packages but in incremental improvement in the efficiency of existing inputs. Additionally, these inputs have been location-specific and knowledge-intensive requiring client-specific advice instead of general Extension recommendations (Byerlee, 1987). In practice, Extension agents working with these groups have not been expected to be equally effective with all groups through the same general methods. Knowledge of such differences has been required in order to understand why some groups have not fared well in accessing Extension services for their farming and environmental protection tasks.
Accessibility of Extension to Women’s Groups

Recent studies and reports about African women’s roles in environmental conservation have argued for integrating women’s perceptions and needs in conservation programs (Braidotti et al, 1994; Nwomonoh, 1994; Rodda, 1991; Ukpolo, 1994). These studies strongly agreed that successful conservation programs must be designed and implemented within a framework in which women will be actively involved because they play key roles as managers of households and are experienced in dealing with finite resources to meet family needs (Collins, 1991; Kettel, 1995; Rao, 1986; Mehra, 1993). In these positions women act as primary intersections between people and nature (Kettel, 1995; Ouma, 1991). Yet, women’s knowledge about the natural environment has remained largely unrecognized by Extension program planners (Bringi, 1993; Katumba, 1993; Kayongo-Male, 1983; Kettel, 1995; Ouma, 1991). Thus, efforts to solve soil and water conservation have been rarely directed, in a meaningful way, towards women or their community-based conservation groups (Morna, 1993). Therefore, Extension departments cannot assume that agricultural productivity will continue with appropriate conservation measures in the face of this gap?

Other studies (Ngau, 1987; Porter et al, 1991) have suggested that the central problem is not the denial of Extension services to women’s groups, but the relative inaccessibility of the groups themselves. Evidence from Kenya, for example, has strongly suggested that although women pride themselves in being associated with community projects, many prefer to be invisible from the government for fear of being tapped for compulsory Harambee cash contributions or free labor outside their communities (Mutiso,
1987; Porter et al, 1991). *Harambee* has been a concept of self-help that was popularized by Kenya's first President, Mzee Jomo Kenyatta. It was an idea of collective self-help through some form of labor, cash, or other materials for mutual assistance in building of roads, schools, bridges, health facilities, cattle dips, water facilities, etc. Some writers, have observed that the pervasiveness of government initiated *Harambee* has been so overwhelming that it has inhibited the ability of peasant farmers to control their activities (Ngau, 1987; Porter et al, 1991).

In some cases *Harambee* has caused lower participation and deliberate anonymity of organizations (Mutiso, 1987, Ngau, 1987). This invisibility, in turn, prevented groups' recognition by Extension agents thereby forfeiting the opportunity to be integrated into Extension program planning. Group members have been left to share among themselves what they know in terms of proper farming and conservation techniques, without the benefit of Extension services (Mutiso, 1987; Porter et al, 1991; Wacker, 1991). It has also been suggested that some Kenyan women farmers do not fully benefit from Extension services because they hesitate to initiate contacts with unrelated male Extension agents due to the social stigma attached to such action (Potash, 1985; Staudt, 1985). Some studies have pointed to a tendency among Extension departments to channel agricultural services, credit, and technology to male farmers to avoid problems of contacting women (Spring, 1987).

Contact farmers selected within the T&V Extension method have been primarily male farmers (Aila, 1985; IFAD, 1992; Staudt, 1985). Therefore, membership in groups could provide a less suspicious and convenient atmosphere for training opportunities,
particularly for Muslims, given the religious restrictions on unaccompanied women movement outside the home. It was for this reason (of involving women's groups rather than individuals) that the Kwale water project was initially very successful, although the project staff recognized the need for different specialized technical expertise than that offered by the government (United Nations Development Programme/Prowess, 1991). Unfortunately, when the project ended, support for these groups also ended.

**Self-Help Women's Groups**

Self-help groups among Kenyan women have been described by some researchers as an indigenous survival phenomenon usually initiated by the locals themselves to meet their needs since colonial times (Mbithi, 1977; Mutiso, 1987; Porter, Allen & Thomson, 1991; Thomas, 1985; Wacker, 1991). Although women's groups have served different functions, four have been identified as particularly important: (a) women's groups act as information conduits, directing information and concerns from individuals to appropriate authorities; the reverse feedback is also important in that authorities can convey ideas and information back to individual households; (b) groups provide necessary emotional support to replenish precariously low emotional reserves, (and enhance a sense of belonging in time of stress and potential isolation); (c) groups' activities provide freedom, safety, anonymity, immunity, and neutrality for their members; and (d) rural organizations can change power and resources allocation through organizational collective efforts (Mutiso, 1987; Thomas, 1985).

Staudt (1990) contended that, although women in western Kenya may prefer to interact with female change agents, they are always ready to work with agents who have
knowledge, power, and resources regardless of their gender. However, it remained to be seen if this was the case for women farmers in Kwale, where due to Islamic injunctions against unrestricted male-female contact, women operated mostly in groups in contrast to people from western Kenya who were chiefly Christians.

Research about women's organization has benefited a lot from learning why farmers organize (Kettel; 1995; Mbithi, 1977 Staudt, 1990). Historically, Africa women farmers formed groups to exchange labor, mobilize savings and credit, self-help, social and ceremonial purposes (World Bank, 1990). Other studies have examined goals, problems and capacities of women's credit organizations (Bhatt, 1989; Moock, 1976: Wamalwa, 1991). For example, many women are bypassed by formal credit systems for a number of reasons including (a) lack of collateral; (b) need for a male co-signer; (c) lower levels of literacy; (d) lack of information; (e) distance and cost of travel to credit institutions; and (f) the small scale of many women's operations (Saito & Weidemann, 1990). Yet, women are generally considered a better credit risk than men (Maitha, 1986; Shipton, 1986; Saito & Weidemann, 1990).

Presently, research continues on women's environmental organizations, and studies are available exploring factors that encourage men's groups in some African settings (Bratton, 1986). Men's group are formed, mostly, as a result of a need for political mobilization, performing and dance groups for ceremonies, crops marketing cooperative societies, and fishermen's cooperative societies (Staudt, 1985; World Bank, 1989). Essentially, men's groups have been formed due to political, social and financial agendas as opposed to women's groups where farming, environmental conservation, and
family well-being are the main purposes (Bratton, 1986, Saito & Weidemann, 1990; Muzaale & Leonard, 1985). There is relatively little knowledge about the factors that encourage women farmers to organize into farming and conservation groups, especially in Muslim areas such as Kwale.

Some writers have also argued that one problem in reaching women farmers has resulted from the types of popular Extension models presently in use in most African countries, such as T&V, and FSR/E (Farming System Research and Extension) (Carruther & Chambers, 1981; Hilderbrand, 1981; Fry, 1994 Staudt, 1985). These models tended to see women as beneficiaries of development in their reproductive roles, while their productive tasks in agriculture and soil conservation are overlooked.

In Kenya, as in other parts of the world, Extension departments have been very fast in ‘attaching’ women’s projects (such as handicraft, sewing, child-care) to on-going development projects (Blumberg & Mehra, 1990; Staudt, 1985). Therefore, Extension agents working with women farmers may push for domestic projects rather than the provision of consultative or advisory services to women about farming or soil conservation. This trend has added more work to women’s already heavy burdens and ignores the real and significant work women do in crucial areas of food production and environmental conservation.

Obstacles to changing this relationship between Extension agencies and women farmers have not only been in the form of integration of women in development programs, but are also firmly entrenched in the traditional conservative strategies practiced by Extension departments’ policies that target male farmers because of the assumption of
women's domestic work (Elson, 1991; Fry, 1994; Potash, 1985; Staudt, 1990). These Extension education methods have been mostly clientele-oriented (contact farmer oriented), leading to greater dependence on Extension agents' leadership, thereby undercutting group autonomy and imposing untried “new technologies” or forming organizations and imposing male-leadership. These strategies have been found to be a failure for the Kwale Water Project (United Nations Development Programme/Prowess, 1991). After the group-oriented water project was concluded, local Extension approaches and strategies clearly failed to continue supporting the women’s groups.

The reality in Kenya is that agricultural production and environmental conservation are dominated by women and women groups (Ojiambo, 1992; United Nations Development Programme/Prowess, 1991). There has been lack of fit between established approaches and assumptions of Extension departments and of women’s agricultural production and conservation realities (Staudt, 1990, Wamalwa, 1991). Lately, there has been a shift of Extension conservation programs from imposing technical recommendations to seek identifying conservation needs and farming priorities from farmers’ themselves (Hudson, & Cheatle, 1993).

Although these approaches have been aimed at linking conservation practices with the farming system, farmers adoption of technologies is still very low (Heinrich, 1990; Shaxson, 1989). Studies have not been undertaken to determine whether Extension agencies’ policies and programs were designed in a way which allowed all farmers’ groups to access, test, and adopt technologies from Extension. Additionally, no research has been conducted to determine the needs and interests of the women’s groups.
The Effectiveness of Agricultural Extension Services

The objectives of Kenya's National Extension Program for agricultural Extension have been to reduce poverty and increase agricultural output. However, to date, the main focus has been on the latter goal, and services therefore have been disproportionately directed to well-off farmers and cash crop producers (Aloo, 1985; Leonard, 1977; Mutiso, 1987; Potash, 1985; World Bank, 1989; UNDP, 1992). Extension resources have been concentrated on major crops such as coffee, tea, cotton, maize with a package of input recommendations aimed at an intensive approach to production. A good number of studies have reported evidence of T&V bias towards more progressive farmers (Biggs, 1989; Jaiswal, 1983; Moore, 1984; Mullen, 1989). Still, other studies have shown that the above trends are less serious than they appeared to be (Slade and Feder, 1986). Indeed, evidence indicating contact farmers' representativeness has not been produced by proponents of T&V (Hulme, 1991).

While the above studies have been instrumental in redesigning T&V approaches worldwide, almost none of them questioned the issue of gender differential in Extension service delivery. The most formidable structural problem common in all Extension programs, the persistent invisibility of female farmers, has thus remained untackled (Due, Molley & Mallone, 1987; Saito & Weidemann, 1990). The reality in Kenya in general, and in Kwale, specifically, is that women have been responsible for at least 70 percent of food production and are also important in other agricultural and environmental conservation activities (International Food and Agricultural Development, 1992; Kwale District Agricultural Annual Report, 1993; Staudt, 1985). Yet, Extension programs have
not been able to come to terms with this reality. For example, in a Kenyan study that compared access of female-managed farms to agricultural services with that of jointly (male and female) managed farms, Staudt (1985) found that female-managed farms were provided with less services than jointly managed farms and that this gap of service provision increased as services became more valuable.

More recently, a World Bank (1993) study showed that farmers receiving advice constituted 81% of male-headed households compared to 49% of female-headed households. Thus, the study concluded that “while almost all sample farmers from male-headed households deriving their main income from agriculture might have been advised by an Extension worker, that seemed to be the case for less than half of the farmers from such female-headed households” (p.67).

The fact that female-managed farms had less access to Extension visits and demonstration plots than jointly managed farms, was, in Staudt’s opinion, the result of the overwhelming predominance of male Extension officers and the tendency for announcements about on-farm demonstrations to be made at community meetings largely attended by male villagers. It is very likely that such a problem has existed in Kwale District where there were only eleven female technical Extension workers out of a total of 112 Extension agents (District Agricultural Officer, 1994).

**Trends of Extension Visitations**

In East Africa, studies of Extension have found that male Extension agents have a tendency to deal with male farmers, even when it was clear that women were the obvious farm producers (Staudt, 1990; Spring, 1987). Staudt (1985) has also reported that while
members of jointly managed farms were more likely to learn about innovations directly from technical sources, women generally learned about innovations from their neighbors, members of women's groups and traders. Although T&V Extension programs had increased their focus on group Extension, evidence from Kenya still strongly suggested that preference was given to individual contact farmers. A study by the World Bank (1993) indicated that in a sample of 676 farmers from 7 districts in Kenya, 62% reported receiving Extension advice (as contact farmers) directly from Extension as compared to 36% who reported doing so in groups; and among small scale farmers in particular, only 42.8% reported receiving advice in groups as compared to 86.2% who received advice as individual farmers. The only coastal district in the World Bank study sample, Taita-Taveta—Kwale's neighbor on the western border—had one of the lowest percentages of farmers who reported receiving advice in groups (i.e., 23.3% in contrast to Machakos in Eastern Province and Murang'a in Central Province which had 46.9% and 43% respectively). Yet, it has been estimated that, in Kenya, twice as many farmers could be reached at the same cost through farmers' groups rather than through individual contacts (World Bank, 1989).

There were more than 6,000 farm-families which have migrated and settled in Kwale from the Machakos district of Kenya during the last 30 years. These migrant settlers have a different ethnic, linguistic and religious background than the natives of Kwale, and probably even a different cultural orientation towards agriculture and soil conservation. A comparison of these migrant women's groups with the local groups, in terms of their level of activities and access to Extension, has not been conducted. These
migrant farmers have been largely non-Muslims, with different cash/food cropping mixes in contrast to the local Muslim farmers of Kwale.

**Kwale District Agricultural Extension and Crops Records for the 1992-1994 Farming Seasons**

Between 1993 and 1994 only about half of the planned farm demonstrations were actually undertaken. Frequency of farm visits, group Extension and field days showed a moderate achievement throughout the District. Data about the gender of participants was not available for Kwale since the district was not included in the World Bank survey. Records of similar activities reported from seven other districts in Kenya, however, indicated attendance as being highest among current and past contact farmers, group members, farmers from male-headed households and lastly large scale farmers. Specifically, those served by Extension were 79% current contact farmers, 88% past contact farmers, 85% were large scale farmers, 72% group farmers, and 68 percent were farmers belonging to male-headed households. With regard to female-headed households, the proportion dropped to 55% (World Bank, 1993).

The available data has been used to partially explain the support male farmers have received from Extension in terms of training, consultations, and more importantly, acquisition of loans and credit from government bodies such as Agricultural Finance Corporation (AFC). The 1993 Kwale Agriculture Annual Report listed 15 farmers who received 63,100 Kshs. from AFC. All the 15 farmers were males. For the year 1994, AFC disbursed 4.95 millions Kshs. to 100 farmers in Kwale. Data on the gender of the recipients was not available, but analysis of earlier trends strongly suggested that the large
majority of the recipients were males. This was rather unsettling for a district where there are more female farmers operating than male farmers. The same pattern has been applied in farm competitions and many other agricultural promotional and incentive activities. For a period of two years there have been only two women out of possible sixty winners of prizes on farm competitions organized by the Extension department (Annual Report 1993 & 1994). All farm competitions reported were designed for individual producers rather than on groups promotion, in a district where women, whether Muslim or Christian, farmed mostly in groups.

Although there were drastic weather conditions for most of 1993-94 farming season, which should have affected all crops, it was only food crops production that seemed to have suffered and depicted a slow or negative growth in actual tons harvested. The 1994 District Agricultural Report mentioned increased support for food crops growers, yet production yields indicated a lower performance of the major food crops such as maize, cassava, beans and vegetables. Data on crops acreage allowed for comparison on the performance of cash crops for the same review period. Without the benefit of Extension records for specific crop/commodity, one cannot conclude which crops were favored and which were not. But the evidence provided in data from the District Agricultural Report (1994) supported the argument that cash crops have tended to increase both in tonnage produced and acreage as a result of greater effort and motivation, on the part of both the farmers and Extension agents to increase the productions of these crops.
Conceptual Framework

Figure 4 describes the conceptual framework for identifying factors influencing accessibility of women’s groups to agricultural Extension services in Kenya. This framework was based on the review of the literature and the personal experience of the researcher. The framework identified the major factors influencing accessibility of women’s groups to agricultural Extension services in Kenya. These factors included: (a) women’s groups’ characteristics; (b) Extension agents’ characteristics; (c) farmers’ characteristics; and (d) accessibility of agricultural Extension services.

The basic premise of the framework was that farming and conservation women’s groups in rural Kenya have not received adequate support from Extension department and that this lack of support was due to (a) insufficient knowledge about women changing needs, strategies, capacities, benefits and the conditions in which they do their collective work; and (b) Extension’s conservative policies and strategies of implementation at the local level and its prioritization of individual, and corporate farmers. It was recognized that although women’s roles in food production and conservation has been acknowledged and explicitly associated with national economic development, many of the goals of women’s projects have not realized, but replaced by welfare activities thereby reinforcing women’s roles as wives and mothers rather than agricultural producers or environmental protectors. In other words, there has been a common misconception (among Extension agents) of what is good and appropriate for rural women which conflicts with the reality of rural Kenyan women’s lives in terms of the roles they played in agricultural and environmental conservation (Buvinic & Mehra, 1990; Rao, 1986; Wamalwa, 1991).
Figure 4: Conceptual framework for identifying factors influencing accessibility of women's groups to agricultural Extension services in Kenya
Several factors have been identified as Extension’s constraints that limit women’s participation in development programs including lack of: (a) effective system for delivering knowledge and skills to small scale farmers; (b) effective system for delivering financial and material inputs; (c) agricultural marketing outlets; and (d) women’s participation in designing, planning and implementation of projects (Melkote, 1988; Mutiso, 1987; Wamalwa, 1991). Furthermore, women’s invisibility from Extension programs has been intensified by women’s reliance on their own work groups rather than on the government. Also this has been reinforced by an Extension program implementation process in departments which are overwhelmingly staffed by male personnel (March & Taqqu, 1986; Spring, 1987; Staudt, 1990). For example, a Food and Agriculture Organization (1989) global survey found that only 15% of the world’s Extension workers were women, ranging from approximately 40% in N. America to less than 11% in Africa and the Middle East.

When Extension support in the form of advice and other services have not been available or is inadequate--as in the case of Kenya and most developing countries--Extension policies have needed some simple mechanisms to identify and link services with these groups’ landscapes so as to pinpoint opportunities for intervention. Women’s groups have provided viable institutions for women farmers to participate in development projects at the local level, especially where religious prohibition limit free male-female interaction as is the case of the predominantly Muslim Kwale District. Partly as a result of the above factors women have not been integrated fully into the development service network, crucial as they are in food production and environmental conservation.
Environmental problems have affected women in very specific ways and any conservation actions undertaken without the active participation of women is hardly going to achieve success. Lack of support for women’s grassroots associations which are important catalysts and initiators of environmental work has contributed to poverty, and degradation of the environment which further diminishes the means of livelihood for poor people, particularly rural women. There has been no doubt that both men and women suffer from environmental degradation, but there is a definite tendency for women to be more adversely affected by the degradation because they live and work at the village-farms, while men can easily migrate to off-farm jobs.

African women’s landscapes have arisen from gender-based responsibilities as mothers involved in food production and environment nurturing for the benefit of the family and the community at large. These landscapes differed but also acted as a language which underlies their interaction styles with the world (Kettel, 1995). In addition, women’s practical needs and interests have arisen from income-earning activities and community level needs such as rights to and control of land, and property, and access to information and skills required for successful involvement of their groups in natural environment protection (Kettel, 1995; Rodda, 1991; Moser, 1989).

Traditionally, in Kenya land had been inherited patrilineally through a process which assured secure access to women farmers (Aila, 1985; Staudt, 1985; Potash, 1985). Land titles have been held largely in men’s names and in most cases women have worked in a tenant-like relationship as there was no concept of joint tenancy in existence (Staudt, 1985). No land has meant no title and, in effect, no collateral for loan or credit.
processing. This process has had obvious implications for acquiring other resources and has thus solidified male control over powerful sources not only in Kwale but in all of Kenya and the world at large. (Staudt, 1985; Elson, 1991; Parpart, 1989; Moser, 1991).
CHAPTER 3

METHODOLOGY

The purpose of this chapter is to describe the procedures used in conducting this study. This chapter will include the following topics: (a) type of research, (b) the setting, (c) population sample, (d) instrumentation, (e) data collection, and (f) data analysis.

Type of Research

This was a descriptive research study. The study was designed to describe and analyze Kenya's women's groups strategies in food production and environmental conservation. In addition, Extension's effort in reaching these women's groups was also a focus of this study.

This research used a multi-stage, multi-method research approach that combined in-depth face-to-face interviews, participant observation, focus group interviews, document review, and structured questionnaires. Affiliation was established with Kenya's Egerton University's Division of Research and Extension which has coordinated numerous research projects throughout Kenya.

The Setting

The setting for this study was Kwale District of Kenya, a site known both for women's collective organizing and as the setting of long-term Extension programs. This study examined the fit between Extension programs' content, its implementation
strategies, and the needs of women's groups. Several characteristics prompted the selection of Kwale district as the study site appropriate for this research:

1. There existed more than one hundred self-help women's groups in the district, the majority of which were actively involved in agricultural production and/or soil conservation activities.

2. The Extension department under the Ministry of Agriculture had been operating in this district even before the country gained its independence from the British. By the time of the researchers' pilot study in 1994, the Extension department had expanded throughout the district with a major research station at Matuga. Extension staff includes over one hundred agents and administrators, and a significant number of agricultural projects and programs throughout the district.

3. In the late 1970s Extension departments in Kenya started to actively implement soil and water conservation projects which involved mostly rural women's groups. In Kwale only a few of these groups seemed to have benefited from the Extension services offered, and

4. The pilot study conducted by the researcher revealed some major issues pertaining to the accessibility of Extension services to these groups which were entrusted with the important task of environmental conservation and food production at the village level.

Population Sample

The researcher's pilot study, together with the Kwale District Agriculture Report (1994) identified 95 women's groups in the district which could be described as farming and conservation groups. These groups were all-women membership groups and defined
in this study as being concerned with crop production and which also actively engaged in soil and water conservation activities. With the help of the District Home-Economics Officer, a list of these groups, from each division, was compiled and updated, and a purposeful sample of 45 groups (about 50 percent of population) was drawn from the three divisions of Kwale. Essentially this was a purposive sampling procedure. The same procedure was used to select 18 mixed Extension groups from the district who also were concerned with crop production and soil and water conservation. These mixed groups included primarily local and migrant women. A few (31) men were also found in these mixed groups. Although the major focus of this study was on women, the information on these men was included since they were members of the mixed groups. This gave a total of 63 groups which were used for the focus group interviews. Groups had an average membership of about 15. Five members from each of the 63 groups were randomly selected for the individual interviews—for a total of 315 farmers selected for the individual interviews. For groups which had less than 10 members, all individuals were interviewed, (totaling 348 for all individual interviews).

All Extension agents operating in those areas/locations from which the groups had been selected were interviewed. Depending on the location of selected groups, the researcher interviewed between seven to ten Extension agents from each Division, giving a total of twenty-seven agents from the entire district. A list of current Extension workers was obtained from the District Agricultural Officer's office at Kwale. Purposive sampling procedures were used to select Extension specialists, conservation projects staff, and district Extension leaders for interview. Eleven subjects were available for this interview.
This purposive method for sampling the respondents was selected due to a number of reasons. The most important reasons are listed below:

1. In the pilot study the farming and conservation groups were found to be organized in groups rather than operating individually. Membership was self-selecting, voluntary, and they maintained permanent work schedules.

2. By direct observations, the respondents were found to actually perform their farming and soil conservation operations as a group.

3. A panel of seven experts in Kwale district unanimously confirmed that the respondents were naturally stratified in their sub-locations and groups, and that utilizing purposive sampling would not imperil the study in any way.

4. All the Extension agents serving these groups were selected for the interviews.

However, the use of purposive sampling had a disadvantage in that the researcher’s judgment could be in error in estimating the real representation of the women’s groups in Kwale district. To overcome this problem the researcher involved the advice of the Subject Matter Specialists from the Ministry of Agriculture’s office, Divisional Extension Officers and local leaders in selecting the women’s groups.

Research Design

This study used a multi-method descriptive correlational method designed to collect information from women’s groups, Extension agents, and Extension leaders in Kwale district. The primary purpose was to identify factors that influenced Extension
accessibility to the women's groups. The research design was a one-shot case study as identified by Campbell and Stanley (1963).

The accessibility factors and demographic characteristics for both the women’s groups members and the Extension agents were studied in order to identify the differences in Extension accessibility with regard to the diverse farmers of Kwale district. The accessibility factors utilized in this study were those identified by two studies conducted in Kenya by the World Bank (1993) and Staudt (1985).

Data for this study was collected through both qualitative and quantitative research techniques, incorporating document research, direct participant observations, and survey research with partially pre-coded questionnaires. Focus group interviews were also conducted with all the groups. In-depth interviews with selected Extension administrators, policy makers, university researchers, farmers, local leaders, and women’s groups leaders was systematically conducted at different phases to consolidate information and issues from the district.

**Instrumentation**

This study utilized four instruments designed specifically to meet the objectives of the study. The first instrument consisted of a quantitative semi-structured questionnaire to obtain information from individual members of the women’s groups about their farming situation, Extension accessibility, soil erosion, water and sanitary problems, and other demographic variables (see Appendix A). Questionnaire items also inquired about the significance of and benefits received from groups, group access to Extension assistance, land, other resources, sources of information, and credit. All interviews were done face
to face, and provided information on individual farmers’ needs, tasks, and problems encountered by women farmers during their daily activities on the farm.

The second instrument was used for interviewing Extension agents. This quantitative instrument inquired about the extent to which Extension agents have adapted their programs to meet the needs of farmers in groups, agent’s knowledge and experience and whether they believed women should or do work in groups for soil and water conservation and farming (see Appendix B). Questionnaire items focused on problems encountered with and by women farmers and their groups, agents’ local and global experience, knowledge about women’s constraints in soil and water conservation, and access to resources such as land, credit, Extension training and technology used by women groups.

The third instrument was a focus group interview guide which was designed to produce qualitative data and elicit responses from women’s groups (see Appendix C). Questionnaire items inquired about the group purpose, functions, composition, and general needs; group’s perceived problems, successful activities and how they could be enhanced; and groups’ capacity to meet members’ and communities’ needs and recommendations regarding improving Extension services for the groups. The first section of the guide allowed some collection of quantitative data. Approximately 10-15 women from each group met with the researcher in the focus group discussions.

The fourth instrument was designed to collect information by interviewing selected Extension specialists, conservation project staff, and Extension researchers in the District (See Appendix D). These interviews provided information about policy
recommendations for farming and soil and water conservation in the District. The instrument had open-ended questions and inquired about policies that could be improved to increase the recognition of women's groups' contribution to soil and water conservation and their efforts to farm sustainably. Like the focus group guide, the beginning section of this questionnaire collected quantitative information about the participants.

Validity

The four instrument guides were assessed by a panel of experts at three levels, at the Ohio State University, at Egerton University-Kenya, as well as at the field in Kwale District. These expert were mainly concerned with content and face validity of the instruments. A list of these individuals is presented in Appendix E. Validity was defined as the extent to which the instruments measured what it was intended to measure (Fraenkel & Wallen, 1996). Both at the Ohio State and Egerton Universities, the panel of experts consisted of four faculty who reviewed and approved the interview guides for content and face validity. At Egerton University an additional two graduate students were involved. All the interview guides included a one page introduction/cover letter, explaining the study. On-site validity check in Kwale district was also conducted with the assistance of three Extension officers who, together with the researcher, used 19 women farmers and four Extension agents from the district. These were subjects who were not included in the sample. The experts were requested to check for the content, structure, utility, clarity, length, format, relevance, simplicity and perceived time required to administer the interview. Necessary changes were made accordingly.
Reliability

The first and second instruments were quantitative questionnaires, the third and fourth instruments were qualitative questions combined with introductory items which collected quantitative information. The reliability testing was done on only the quantitative instruments. The instruments were field tested in Kwale with 19 women farmers, four Extension agents, and three Extension administrators. A test-retest method was used to establish the reliability of the two quantitative instruments. Each respondent was interviewed individually. After a five week period, they were interviewed again with the use of the same instruments. Exact match test-retest scores were computed for each individual item. With the use of Nunnally's minimum reliability coefficient of .50, all items in questions: 10, 11, 14, 19, 21, 22, 23, 24, 24, 25, 26, 28, 48, 49, 52, 53, 55, 57, 68, and 69 in the first instrument, were determined to be reliable. For the second instrument, all the question items between questions 13 and 28 were used.

The reliability coefficients were calculated for items which had ordered responses such as very low to very high, or excellent to poor. All test-retest responses had to have either an exact match response or within one level difference to be reliable. Instruments one (Appendix A) and instruments two (Appendix B) had reliability scores of .71 and .79 respectively. Most of the changes made on the questionnaire items were changes which improved the clarity and format of the question statements. A few questionnaire items were added or deleted depending on the relevancy of the question(s) to the study. The field tests for the research instruments were used to obtain information regarding the statements and demographic information used on the questionnaire items and procedure
for the data collection. After the field tests, some minor changes were necessary. Most of the interviews were conducted in Kiswahili, although in some occasions, a translator was used to assist in exchanging information. The researcher spoke Kiswahili, and a few of the local languages spoken in the district. A permanent research assistant, a woman who spoke all the major languages, was also very helpful in translating for the researcher when the need arose.

**Data Collection**

A review of existing documents concerning studies about women's issues was conducted at Egerton University, before the field-data collection started in Kwale. This review provided background information on policies, programs and conclusions of prior studies of Extension program and projects about women. Specific documents reviewed at Egerton University and Kwale district headquarters included: (a) District Agricultural Reports-Kwale 1990-1994; (b) Kwale District Extension Records; (c) Previous agricultural Extension studies done in Kenya; and (d) studies about women farmers done in Kenya. The researcher also conducted a brief re-familiarization study and observed farming and soil conservation projects undertaken by women groups in the Kwale District. This re-familiarized the researcher with villages, farming communities, Extension workers, and the local government officials.

To assess the functions, problems, needs, benefits, and capacities of women's agricultural production and soil and water conservation groups in Kwale, a purposeful sample of 63 women's groups was selected for both individual and focus group interviews. Individual surveys were necessary because they provided a broad
representation of women's groups members and an opportunity for collecting
demographic data and other individual information pertaining to the objectives of the
study, whereas the focus group interviews provided specific in-depth information on the
issues.

To assess the factors that influenced Extension services' accessibility and
effectiveness in supporting women's groups in the district, a purposeful sample of twenty-
seven Extension workers and eleven Extension administrators were selected to interview.
Information obtained from the women's groups, also described above, were used for this
assessment. These interviews helped to provide information about Extension agents'
demographics and their knowledge, experiences with women farmers, and the strategies
they used to target women groups for soil and water conservation and general farming.

To assess the appropriateness and effectiveness of Extension program adaptations
in relation to different types of groups, a purposeful sample of 63 groups was selected for
focus group and individual interviews. This information helped to determine and compare
Extension's success in reaching different groups.

Finally, interviews were conducted with eleven selected Extension specialists,
conservation project staff, and Extension researchers in the district. The main objectives
of the interviews were to identify feasible strategies for improving the accessibility and
usefulness of the Extension services for women in farming and conservation groups.
These interviews provided information about policies and recommendations for farmers
and soil and water conservation in the district. This study was conducted between
Measurement

Measurement has been defined by Kerlinger (1986) as the process of assigning numerals to objects or events according to rules. Ordered response to items were used to measure the main independent and dependent characteristics. These characteristics included question items and/or statements which the respondents were asked to indicate their levels of satisfaction, relevancy, quantity or quality using a four or five point scale: 1=Very Low, 2=Low, 3=Medium, 4=High, and 5=Very High.

Additionally, the respondents were asked questions related to their demographic characteristics. These items incorporated both open-ended and closed type of questions. Respondents were given opportunities to ask the researcher any question(s) they deemed necessary at the time.

The Focus Group Interviews

Sixty-three women’s groups participated in the study. The emphasis in these sessions was to obtain in-depth perceptions of the issues in question. The focus group sessions were also used to obtain quantitative information about the group’s functions, dates of formation, membership, and rate of Extension visitations to the groups. Members were provided with refreshments/snacks prior to the meetings. Extensive probing was possible because the participating group members knew and trusted each other. The participants were relaxed, informal in setting, and felt secure and unthreatened. The moderator(s) sought and carefully listened to honest opinions.

The groups were composed of 10-15 participants. Props and real objects such as farming tools and seedlings were used to stimulate discussions. In this setting, the focus
group participants developed synergy and spontaneity thus expanding on each others comments and ideas. A discussion guide was prepared prior to conducting the 63 group sessions to assist the moderator rather than being used as a questionnaire. The sessions lasted about 90-120 minutes.

The moderator made extensive notes after each session, recording the general mood of the participants, the venue, group compositions with regard to age, gender, religion, attendance, and the general participation records. There was always a translator present whose services, in this case, were not needed except for one session out of the 63 meetings held. For this reason, the translator played the role of a notes-taker. These notes later complimented tape-recorded voices for clarification purposes during transcribing.

Rationale for Using Focus Groups in Extension Research

Focus group interviews were appropriate because they permitted the researcher to (a) observe a large amount of interaction of topics and issues over a short period of time; (b) observe behavior; (c) organize a more open discussion of the research questions and topics; and (d) provided an opportunity to cross-check given information instantly. There are many advantages of using focus group method in collecting information about farmers in developing nations (Folch-Lyon & Trost, 1981; Ward, Bertrand & Brown, 1991). The fact that most of the participants in Kwale’s rural areas were illiterate presented a paradox regarding who really answered the survey questions which were usually translated to them by their educated peers. In fact, the question of accuracy in translation of the critical information conveyed to the illiterate farmers further complicated the process.
Focus group techniques allowed the participants of the meeting/session to express themselves in a spontaneous way, which was not restrictive or structured according to the researcher’s agenda. In focus groups, the participants had the freedom of raising issues which were important and relevant to their situation (Bertrand, Brown & Ward, 1992).

For researchers in less developed nations, focus group method was particularly appropriate and practical because:

(a) Focus groups were inexpensive: Considering the resources needed to conduct a simple survey, in terms of finances, personnel, training, statistical computer program and other resources, focus groups were less costly.

(b) Focus groups served multiple purposes: The researcher had the option of collecting quantitative data, or exhibiting props and real objects to encourage responses. Also, the researcher had the advantage of gathering data across different ethnic groups in different locations.

(c) Focus groups were more informative: The participants had the opportunity to provide more in-depth insights into the issues and questions posed to them.

(d) Focus group method was a practical approach: The sessions were conducted in a short time, by a small number of people. There was no need of writing on the part of the farmers whom, in the first place, were mostly illiterate.

(e) Focus group results were easily accessible. Since there was no complex analysis, findings were easily processed and accessed by local decision makers.
Data Analysis

Descriptive statistics were used to analyze quantitative data. Ethnographic procedures were utilized for open-ended question responses and the rest of the qualitative data collected. Information analyzed through ethnographic procedures included notes taken during the familiarization tour of the district, field visits, office consultations, interviews, and document research. This information and the transcribed data was summarized, and transferred on to note cards by the researcher. Information from the note cards was analyzed by the researcher and presented thematically. Open-ended items from the three questionnaires as well as notes taken during meetings, field days, fairs, farm and village demonstrations were also used to compliment the analysis. Inductive data analysis procedures were utilized for analyzing this data. According to Lincoln and Guba (1985), inductive analysis aims at uncovering embedded information and making it more explicit. Information from the respondents was transcribed and summarized on note cards using the constant comparative method of qualitative analysis (Glaser and Strauss, 1967), a method involving categorization of qualitative data. Since the interviews and notes were in Swahili, there were no individuals available and willing to check the researcher’s classifications during the writing phase. Additionally, funding was not available to translate the information into English.

For the quantitative information, the SPSS statistical computer program was used to analyze the data. Descriptive statistics were used to organize data collected on the dependent variable—accessibility of Extension services to the farmers; and the independent variable, which included selected characteristics.
The first objective of the study was to describe women farmers on selected characteristics. The characteristics of the participating farmers were summarized using descriptive statistics. Frequencies and percentages were calculated to achieve this objective. The same measurements were used for the second objective of the study which was to assess farmers’ perceptions on the Extension service’s quantity and quality. The third objective of the study was to determine the functions of the women’s groups with regard to soil and water conservation and food production. An interpretative analysis was reported from the focus group sessions. Additional analysis was also summarized through using descriptive statistics of frequencies and percentages. Frequencies and percentages were also used to analyze objectives four, five, six, and seven. These objectives investigated women’s groups needs, problems, Extension visitations to groups, and members’ benefits respectively. The bulk of this information was collected through focus group sessions and, for this reason, an interpretative analysis was conducted.

The eighth objective examined how religions and languages spoken by the respondents affected the level of Extension support received. Crosstabulations were used to explain the relationships of these variables. The ninth objective described Extension agents on selected characteristics. Frequencies and percentages were used to summarize this information.

The tenth objectives of the study was to ascertain agents’ perceptions of farmers’ participation in Extension activities by gender and with different delivery methods. Means, standard deviations, frequencies, and percentages were calculated to accomplish this objective.
CHAPTER 4
FINDINGS

This chapter will present the findings for the study. The findings will be organized according to the objectives of the study.

Objective 1: Describe Women Farmers on the Following Selected Characteristics, (a) Age; (b) Ethnicity; (c) Religion; (d) Education, (e) Language; (f) Farm-sizes; (g) Source of Agricultural Information; (h) Original Home; (i) Farm Ownership and Title

The first objective of this study was to identify selected characteristics of the Kwale’s women farmers. Several characteristics of these farmers were considered important in describing the population of the study. In addition, these characteristics described the population’s distribution, relationships between respondents and their perceptions. Although most of the data was analyzed from the survey findings, information from the focus group interviews was added to supplement the findings.

Age

Table 2 summarizes information regarding the age of farmers. Most of the female farmers (72.9 %), and male farmers (80.6%) were between 21 and 50 years of age. Although there were six female farmers (1.9%) who were between the ages of 15-20 years, there were no male farmers in this age category. Farmers who were above 51 years
old included 24.9% females and 19.4% males. A total of 46.8% of the farmers were above 41 years. About one half (50.9%) of all the participating farmers reported being between the ages of 21 and 40 years old.

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-20</td>
<td>6</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>21-30</td>
<td>66</td>
<td>5</td>
<td>71</td>
</tr>
<tr>
<td>31-40</td>
<td>96</td>
<td>10</td>
<td>106</td>
</tr>
<tr>
<td>41-50</td>
<td>69</td>
<td>10</td>
<td>79</td>
</tr>
<tr>
<td>51 and over</td>
<td>79</td>
<td>6</td>
<td>85</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>31</td>
<td>348</td>
</tr>
</tbody>
</table>

Table 2: Age of the participating farmers by gender

Ethnic Distribution

Table 3 presents information on ethnic distribution of the participants. The Kamba and Digo farmers participating in the agricultural/soil conservation groups represented the largest ethnic groups 46.6% and 39.7% respectively. The Kamba farmers migrated from Machakos, Makueni, and Kitui districts of eastern Kenya, and the Digo farmers are indigenous of Kwale district. Approximately one half (49.5%) of the female and male
farmers interviewed were from the Kamba ethnic group. The large number of Kamba farmers was probably due to the fact that most of the areas used for this study were populated by these migrants farmers.

The rest of the respondents (12.9%) were distributed among more than four other ethnic groups (Duruma, Kalenjin, Meru, Giriama, and others). Even though most of the farmers interviewed spoke Kiswahili, the national language, there were a few older women respondents who could only communicate in their vernacular language.

<table>
<thead>
<tr>
<th>Ethnic Background</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Digo</td>
<td>119</td>
<td>37.5</td>
<td>19</td>
</tr>
<tr>
<td>Duruma</td>
<td>19</td>
<td>6.0</td>
<td>7</td>
</tr>
<tr>
<td>Kamba</td>
<td>157</td>
<td>49.5</td>
<td>5</td>
</tr>
<tr>
<td>Kalenjin</td>
<td>2</td>
<td>.6</td>
<td>0</td>
</tr>
<tr>
<td>Meru</td>
<td>1</td>
<td>.3</td>
<td>0</td>
</tr>
<tr>
<td>Giriama</td>
<td>10</td>
<td>3.2</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>2.8</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
</tr>
</tbody>
</table>

Table 3: Ethnic background of the respondents

Religious Affiliation

The religious affiliation of the respondents by gender is presented in Table 4. More than one half (52.9%) of the respondents reported being Christians, 45.4% were
Moslems, and the remaining 1.7% were Traditionalists. Among the female farmers 55.5% were Christians and 42.9% were Moslems. For male farmers, the majority (71.0%) were Moslems and 25.8% were Christians. Culturally, Moslem men, in this area, tended to minimize women's roles outside the house. As a result the percentage of Christian women farmers was higher than the Moslem women farmers.

<table>
<thead>
<tr>
<th>Religion</th>
<th>Female</th>
<th></th>
<th>Male</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>Christian</td>
<td>176</td>
<td>55.5</td>
<td>8</td>
<td>25.8</td>
<td>184</td>
<td>52.9</td>
</tr>
<tr>
<td>Muslim</td>
<td>136</td>
<td>42.9</td>
<td>22</td>
<td>71.0</td>
<td>158</td>
<td>45.4</td>
</tr>
<tr>
<td>Traditional</td>
<td>5</td>
<td>1.6</td>
<td>1</td>
<td>3.2</td>
<td>6</td>
<td>1.7</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
<td>100.0</td>
<td>348</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4: Farmers' religious affiliation by gender

Education

The highest educational level attained by the participants is reported in Table 5. About 48% of the farmers never attended any formal schooling. Out of those who never attended school, the percentage of female farmers was slightly higher (48.7%) than that of male farmers (41.9%). Generally speaking, the educational levels of females were lower than males, even though the differences were minimal. These results however, were expected since the district has lagged behind, not only in education, but in practically all
aspects of economic and social development. This lag in development was politically and religiously motivated. About 30% of the farmers had achieved at least seven to eight years of schooling. This situation made it imperative to have Extension

| School Attendance | Females | | Males | | Totals | |
|------------------|---------|--|--|---|---|--|--|
|                   | f | % | f | % | f | % |
| Never attended    | 154 | 48.7 | 13 | 41.9 | 167 | 48.1 |
| 1-2 Years         | 14 | 4.4 | 2 | 6.5 | 16 | 4.6 |
| 3-6 Years         | 53 | 16.8 | 6 | 19.4 | 59 | 17.0 |
| 7-8 Years         | 95 | 30.1 | 10 | 32.3 | 105 | 30.3 |
| Missing           | 1 | .3 | 0 | 0 | 1 | .3 |
| Totals            | 317 | 100.0 | 31 | 100.0 | 348 | 100.0 |

Table 5: Highest educational level attained by participants by gender

workers who could not only communicate with poorly educated farmers, but also to understand the problem and try to accommodate this educational difference between the farmers and the agents.

Languages Spoken by Farmers

The first language spoken by the participants is reported in Table 6. While discussions and analysis of Extension work can be undertaken in any language, communicating messages for a specific ethnic group takes place in the local language. One half of the female participants spoke Kikamba (49.8%), and 61.3% of the male farmers interviewed spoke Kidigo.
<table>
<thead>
<tr>
<th>Language Spoken by Participants</th>
<th>Females</th>
<th></th>
<th>Male</th>
<th></th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Kidigo</td>
<td>120</td>
<td>37.9</td>
<td>19</td>
<td>61.3</td>
<td>139</td>
</tr>
<tr>
<td>Kiduruma</td>
<td>18</td>
<td>5.7</td>
<td>7</td>
<td>22.6</td>
<td>25</td>
</tr>
<tr>
<td>Kikamba</td>
<td>158</td>
<td>49.8</td>
<td>5</td>
<td>16.1</td>
<td>163</td>
</tr>
<tr>
<td>Other</td>
<td>21</td>
<td>6.6</td>
<td>-</td>
<td>-</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
<td>100.0</td>
<td>348</td>
</tr>
</tbody>
</table>

Table 6: First languages spoken by the farmers by gender

In total, Kikamba and Kidigo speaking farmers comprised about 86% of all the participants. The proportion of Kikamba speaking farmers may appear larger than reality due to the fact that the women's group which dealt with conservation work were mainly concentrated among the Kamba speaking people. Most of the farmers, both male and female were able to communicate in Kiswahili, the national language, but a few, especially those who never attended formal schooling, could only communicate in their ethnic language.

**Farm Sizes**

Table 7 gives the size of farms that the participants represented. About 10% of the farms were less than an acre in size. Farms which were between one and two hectares were owned by nearly 20% of the participating farmers, and about 30% of the participants reported owning farms which were between three and five hectares in size. About 20% of the respondents represented farm sizes of more than ten hectares. Therefore, the majority
of the farmers (59.7%) cultivated less than five hectares. Most of male farmers (71.3%) owned farms which were between one and five hectares, whereas, one half of the participating female farmers (46.1%) owned farms which were between three hectares and ten hectares.

<table>
<thead>
<tr>
<th>Size of Farm</th>
<th>Females</th>
<th></th>
<th>Male</th>
<th></th>
<th>Totals</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Less than an Hectare</td>
<td>36</td>
<td>11.4</td>
<td>-</td>
<td>-</td>
<td>36</td>
<td>10.5</td>
</tr>
<tr>
<td>1-2 Hectares</td>
<td>61</td>
<td>19.2</td>
<td>8</td>
<td>25.8</td>
<td>69</td>
<td>20.1</td>
</tr>
<tr>
<td>3-5 Hectares</td>
<td>89</td>
<td>28.1</td>
<td>14</td>
<td>45.5</td>
<td>103</td>
<td>29.9</td>
</tr>
<tr>
<td>6-10 Hectares</td>
<td>57</td>
<td>18.0</td>
<td>5</td>
<td>16.1</td>
<td>62</td>
<td>18.0</td>
</tr>
<tr>
<td>More than 10 Hectare</td>
<td>70</td>
<td>22.1</td>
<td>4</td>
<td>12.9</td>
<td>74</td>
<td>21.5</td>
</tr>
<tr>
<td>Missing</td>
<td>4</td>
<td>1.3</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>1.1</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
<td>100.0</td>
<td>348</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 7: Size of participants' farms by gender

Source of Agricultural Information

The Sources of agricultural information used by the participants is reported in Table 8. A total of 82.5% of the farmers interviewed reported that they relied solely on Extension agents for agricultural information. Information from other sources such as Non-Governmental Organizations (NGOs), Agricultural Finance Corporation (AFC), or other ministries was small (i.e., it was reported by less than 8% of the participants). There
were more women (9%) than men (3.2%) who claimed complete lack of information during their farming season. For both female and male participants, agricultural information obtained from their village groups represented only 6.7%. Although groups may encourage agents to visit them more often than individual farms, there was very little sharing of agricultural information among members of groups.

<table>
<thead>
<tr>
<th>Source of Agricultural Information</th>
<th>Females</th>
<th></th>
<th>Male</th>
<th></th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>No source</td>
<td>30</td>
<td>9.6</td>
<td>1</td>
<td>3.2</td>
<td>31</td>
</tr>
<tr>
<td>Extension Department</td>
<td>259</td>
<td>82.5</td>
<td>28</td>
<td>90.3</td>
<td>287</td>
</tr>
<tr>
<td>NGOs.</td>
<td>2</td>
<td>.6</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Agricultural Finance</td>
<td>2</td>
<td>.6</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>My village group</td>
<td>21</td>
<td>6.7</td>
<td>2</td>
<td>6.7</td>
<td>23</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td>.9</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Totals</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
<td>100.0</td>
<td>348</td>
</tr>
</tbody>
</table>

Table 8: Source of agricultural information

Original Home-District of Farmers

The original home districts of the participants is presented in Table 9. Only about one half (48.9%) of the farmers interviewed came from within Kwale, the rest of the farmers were from outside the district. Farmers from Kilifi and Mombasa districts accounted for 4% of the participants. All of these districts were on the coastline bordering the Indian Ocean. Farmers from Machakos and other up-country districts such as Meru
have different farming experiences and less familiarity with Kwale soils and ecological conditions. However, most of the migrant farmers had been in the district for more than three decades. This made it possible for the migrant farmers to acquire and have similar farming experiences and knowledge as the indigenous farmers.

<table>
<thead>
<tr>
<th>Home District</th>
<th>Females</th>
<th>Male</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Kwale</td>
<td>143</td>
<td>45.1</td>
<td>27</td>
</tr>
<tr>
<td>Machakos</td>
<td>150</td>
<td>47.3</td>
<td>4</td>
</tr>
<tr>
<td>Meru</td>
<td>1</td>
<td>.3</td>
<td>-</td>
</tr>
<tr>
<td>Mombasa</td>
<td>3</td>
<td>.9</td>
<td>-</td>
</tr>
<tr>
<td>Kilifi</td>
<td>11</td>
<td>3.5</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>2.8</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
</tr>
</tbody>
</table>

Table 9: Original home district of participants by gender

**Farm Ownership**

Information about farm ownership of the participants is presented in Table 10.

Out of all the participants, 67.7% of the male farmers reported to own land, and only 13.6% of the female farmers indicated that the land belonged to them. More than half (57.4%) of the female farmers reported that the land they were cultivating on belonged to their husbands. A total of only 9.2% of all the farmers reported collective ownership of the land, (i.e., owned jointly by wife and husband).
Table 10: Owner of farm-land by gender

<table>
<thead>
<tr>
<th>Owner of Farm</th>
<th>Females</th>
<th>Male</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Self</td>
<td>43</td>
<td>13.6</td>
<td>21</td>
</tr>
<tr>
<td>Husband</td>
<td>182</td>
<td>57.4</td>
<td>-</td>
</tr>
<tr>
<td>Wife</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Government land</td>
<td>9</td>
<td>2.8</td>
<td>1</td>
</tr>
<tr>
<td>Private land</td>
<td>1</td>
<td>0.3</td>
<td>1</td>
</tr>
<tr>
<td>Neighbor</td>
<td>49</td>
<td>15.5</td>
<td>5</td>
</tr>
<tr>
<td>Husband and wife</td>
<td>31</td>
<td>9.8</td>
<td>1</td>
</tr>
<tr>
<td>Parents</td>
<td>2</td>
<td>0.6</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
</tr>
</tbody>
</table>

Table 10: Owner of farm-land by gender

Whether Farmers Had Title Deed for the Land

Table 11 reports the type of ownership the participants had for the land they farmed. Only one half (49.7%) of the participants had complete legal ownership of the land (title deeds). The rest of the farmers reported: not owning land at all (10%); had land to cultivate but did not have titles (33.6%); and the remaining 6.6% did not know whether they had title deeds or not.

In Kwale, good farming land was scarce, and it had become even more so since government officials had decided to sell the prime public lands to themselves and private developers. Many farmers expressed disappointments with regard to the way the
government had handled the land problem. On top of the participants’ grievances’ list were issues regarding inequality of land, slow demarcation, wrongful issuance of title deeds, displacement of poor farmers and selling and allocation of public lands to wealthy individuals and companies within and outside Kwale District.

<table>
<thead>
<tr>
<th>Land Ownership Status</th>
<th>Females</th>
<th></th>
<th>Male</th>
<th></th>
<th>Totals</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>Did not own land</td>
<td>32</td>
<td>10.8</td>
<td>3</td>
<td>10.0</td>
<td>35</td>
<td>10.1</td>
</tr>
<tr>
<td>Had title deed</td>
<td>163</td>
<td>55.3</td>
<td>10</td>
<td>33.3</td>
<td>173</td>
<td>49.7</td>
</tr>
<tr>
<td>Did not have title deed</td>
<td>100</td>
<td>33.9</td>
<td>17</td>
<td>56.7</td>
<td>117</td>
<td>33.6</td>
</tr>
<tr>
<td>Did not report</td>
<td>22</td>
<td>6.9</td>
<td>1</td>
<td>3.2</td>
<td>23</td>
<td>6.6</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
<td>100.0</td>
<td>348</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 11: Land ownership status by gender

Objective 2: Assess Farmers’ Perceptions of (a) Rate of Extension Agents’ Visitation and their Usefulness to the Individual Farmers, and (b) Farmers’ Rate of Attendance at Agricultural Extension Training Programs and the Usefulness of the Training Programs to the Individual Farmers

Assessing the perceived Extension agents visitation rates, training programs and their ultimate usefulness to the individual farmers was the main thrust of objective two. The perceived visitation rates, attendance at the Extension programs, and their usefulness was measured by farmers reported number of visits by Extension agents and attendance at
regular Extension training offered during the year. Usefulness of the visits and the training programs was measured by what the farmers learned during these interactions.

Extension Visitations

Table 12 presents information about the frequency of Extension agents visitations to the participating farmers. About 17% of all the farmers interviewed reported that they had not been visited by an Extension agent since the last farming season. More than a quarter (25.3%) reported to have been visited about once a week during the last farming season. A total of 39.7% of the farmers reported at least one visit per month during the last farming season.

There were more female farmers (17.8%) who reported not having seen an agent when compared to male farmers (13%). However, 38.7% of the male farmers were visited at least once a week compared to women (24%). Those farmers who remembered to have seen an agent (in the last farming season) at least one time were 11%.

Customarily, during a farm visit, an Extension agent asked for the husband first, before meeting any member of the family. It was because of such restrictions that most of the Extension agent’s visits were directed to the male farmers or household heads. This was the case even when the males were not actively engaged in the farming activities of the family.
<table>
<thead>
<tr>
<th>Frequency of Visitations</th>
<th>Females</th>
<th></th>
<th>Male</th>
<th></th>
<th>Totals</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>Never visited</td>
<td>56</td>
<td>17.8</td>
<td>4</td>
<td>12.9</td>
<td>60</td>
<td>17.2</td>
</tr>
<tr>
<td>At least once a week</td>
<td>76</td>
<td>24.1</td>
<td>12</td>
<td>38.7</td>
<td>88</td>
<td>25.3</td>
</tr>
<tr>
<td>At least once a month</td>
<td>128</td>
<td>40.6</td>
<td>10</td>
<td>32.3</td>
<td>138</td>
<td>39.7</td>
</tr>
<tr>
<td>At least once a year</td>
<td>38</td>
<td>12.1</td>
<td>1</td>
<td>3.2</td>
<td>39</td>
<td>11.2</td>
</tr>
<tr>
<td>Whenever there is need</td>
<td>16</td>
<td>5.1</td>
<td>4</td>
<td>12.9</td>
<td>20</td>
<td>5.7</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td>.9</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>.9</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
<td>100.0</td>
<td>348</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 12: Rate of Extension service visitations to individual farmers by gender

Useful Information Learned From the Extension Agents Visits

Table 13 summarizes respondents' information about useful information that they learned during Extension agent visits. Those participants who reported learning nothing from these visits were 19.8%. For those who reported that the visits were useful, 32.5% learned useful information about crop planting and about the same percentage (32.2%) reported learning pest control. Eight percent of the participants reported learning useful information about manure and/or fertilizers. Among all the participants interviewed, only 1.7% reported learning about soil conservation, (i.e., the main theme of most of the groups which were interviewed). This finding was unexpected since soil conservation was a separate departmental section of the Extension and had better and more consistent funding than regular Extension.
<table>
<thead>
<tr>
<th>Useful Information Learnt</th>
<th>Females</th>
<th>Male</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>None</td>
<td>64</td>
<td>20.4</td>
<td>5</td>
</tr>
<tr>
<td>Planting</td>
<td>101</td>
<td>32.2</td>
<td>12</td>
</tr>
<tr>
<td>Pest Control</td>
<td>101</td>
<td>32.2</td>
<td>11</td>
</tr>
<tr>
<td>Fertilization/Manuring</td>
<td>27</td>
<td>8.6</td>
<td>1</td>
</tr>
<tr>
<td>Storage</td>
<td>15</td>
<td>4.8</td>
<td>1</td>
</tr>
<tr>
<td>Marketing</td>
<td>1</td>
<td>.3</td>
<td>-</td>
</tr>
<tr>
<td>Soil Conservation</td>
<td>5</td>
<td>1.6</td>
<td>1</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td>.9</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>317</strong></td>
<td><strong>100</strong></td>
<td><strong>31</strong></td>
</tr>
</tbody>
</table>

Table 13: Useful information learned during Extension agents visitations by gender

However, from observing some Extension agents visiting their farmers, it appeared that some elements of soil conservation were taught indirectly. For example, advising a farmer to plant on ridges or on a rotational basis. It was apparent however, that there was very little effort on the part of the agents to incorporate soil conservation as part of the Extension messages during such visits.

**Attendance at Agricultural Extension Training Programs**

In determining the perceived rate of attendance at Extension training programs, farmers reported the number of times they attended a baraza and/or field days conducted in their areas during the year. Usefulness was measured by what the farmer considered useful information for his/her farming. All the findings are presented by gender.
Barazas. Table 14 presents information on the number of participants who reported participating in agricultural Extension training programs (barazas). In general the data indicates that attendance was usually poor. A total of 37.6% of the farmers reported that they had never attended these functions.

One third of the respondents reported having attended at least one baraza in the previous year. Only 13.8% reported attending a baraza at least twice during the previous farming year. Those who attended between three and seven times in a year totaled 15.2%. The problems reported by the participants with regard to attending these meetings included: (a) poor communications between the organizers and the farmers, in that most of the time farmers were informed after the activity had taken place rather than before the meeting. For those farmers who were informed beforehand the notices for the meeting was usually short; (b) although these were farming/planning meetings, farmers complained that they were usually held during the peak of the season, rather than before crops were planted, when a lot of time was needed to be spent on the farms, and it became almost impossible to attend a meeting when ones crops were unprotected against birds, vermins such as wild pigs and monkeys who were very problematic in the district; and (c) a lot of the discussions taking place in such meetings were not considered to have been useful to the farmers, and instead the meeting’s agendas were focused on political discussions and campaigning. A higher percentage of male participants (45.2%) attended the barazas than
Table 14: Attendance at agricultural Extension programs (Barazas) by gender

<table>
<thead>
<tr>
<th>Frequency of Attendance</th>
<th>Female</th>
<th>Male</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Never attended</td>
<td>126</td>
<td>39.7</td>
<td>5</td>
</tr>
<tr>
<td>Once a year</td>
<td>102</td>
<td>32.2</td>
<td>14</td>
</tr>
<tr>
<td>Twice a year</td>
<td>43</td>
<td>13.6</td>
<td>5</td>
</tr>
<tr>
<td>Three times a year</td>
<td>19</td>
<td>6.0</td>
<td>2</td>
</tr>
<tr>
<td>Four times a year</td>
<td>8</td>
<td>2.5</td>
<td>3</td>
</tr>
<tr>
<td>Five times a year</td>
<td>7</td>
<td>2.2</td>
<td>0</td>
</tr>
<tr>
<td>Six times a year</td>
<td>8</td>
<td>2.5</td>
<td>0</td>
</tr>
<tr>
<td>Seven times a year</td>
<td>4</td>
<td>1.3</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
</tr>
</tbody>
</table>

women participants (32.3%). Barazas were culturally considered a male affair, and, in the Moslem communities, specifically in Kwale district, some women had only recently been allowed to attend such functions.

Field-days. Table 15 presents information on attendance who attended field-days. Like the baraza’s attendance, those participants who never attended field-days formed the largest number of farmers. However, since field-days were usually held on the farm (unlike a village meeting or baraza) attendance was slightly higher than the barazas. There was a higher percentage of males who had never attended field-days (45.2%) than was the case for female farmers (36.3%). Female farmers were more likely to attend field-days.
For those farmers who reported attending at least one field-day, a higher percentage of females (36.9%) attended than males (25.8%).

<table>
<thead>
<tr>
<th>Frequency of attendance</th>
<th>Female</th>
<th>Male</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Never attended</td>
<td>115</td>
<td>36.3</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>129</td>
<td>37.1</td>
<td></td>
</tr>
<tr>
<td>Once a year</td>
<td>117</td>
<td>36.9</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>125</td>
<td>35.9</td>
<td></td>
</tr>
<tr>
<td>Twice a year</td>
<td>51</td>
<td>16.1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>56</td>
<td>16.1</td>
<td></td>
</tr>
<tr>
<td>Three times a year</td>
<td>9</td>
<td>2.8</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td>Four times a year</td>
<td>5</td>
<td>1.6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>Five times a year</td>
<td>8</td>
<td>2.5</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>Six times a year</td>
<td>9</td>
<td>2.8</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>Seven times a year</td>
<td>3</td>
<td>.9</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>.9</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>348</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 15: Attendance at agricultural Extension programs (field-days) by gender

Useful Lessons Learned At the Extension Training Functions

Barazas. The useful lessons that farmers reported they learned at the barazas are reported in Table 16. About 40% of the female farmers and 16% of the male farmers reported that barazas were never held in their locations. However 28.7% of the participating farmers reported learning useful information on crops management. About 21% of the farmers learned market information which was useful to them. Logically,
these functions can not be useful to the farmers if they were not held at all, or if held they were not well organized to allow all farmers to attend. As reported by many concerned farmers as well as Extension agents, many of those who attended the barazas attended only for the free inputs sometimes handed out during these meetings. A few years ago the Extension department issued free farm inputs to farmers mainly to act as demonstrations or free samples for testing. Examples of these free inputs included: seeds, fertilizers, and chemicals. Farmers generally considered these more important than the agricultural information they would receive and the opportunity of consulting with an agent. This free provisions had been stopped recently due to decreased Extension funding problems.

<table>
<thead>
<tr>
<th>Useful Lessons Learned</th>
<th>Females</th>
<th>Males</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Never Held</td>
<td>127</td>
<td>40.4</td>
<td>5</td>
</tr>
<tr>
<td>Crops management</td>
<td>87</td>
<td>27.7</td>
<td>12</td>
</tr>
<tr>
<td>Market Information</td>
<td>65</td>
<td>20.7</td>
<td>7</td>
</tr>
<tr>
<td>Livestock Information</td>
<td>20</td>
<td>6.4</td>
<td>4</td>
</tr>
<tr>
<td>Create awareness</td>
<td>15</td>
<td>4.8</td>
<td>3</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td>.9</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
</tr>
</tbody>
</table>

Table 16: Useful lessons learned at baraza by gender
Most of the farmers, in the focus group meetings, contended that the barazas had become boring and monotonous with repeated and outdated technical information year in year out. As reported from the previous analysis, 74.2% of the male farmers found the barazas more useful than female farmers (54.2%).

Field-days. Table 17 summarizes information on usefulness of lessons learned at the field-days. A total of 36.5% of participating farmers (35.6% of the female farmers and 45.2% of the male farmers) reported that field-days were never held in their locations. Since field-days were held on the farms, women, as reported earlier, found them more useful than men did. For crops management, marketing, and livestock information, 60% of the female farmers reported finding field-days useful compared to male farmers’ 51.6%.

<table>
<thead>
<tr>
<th>Useful Lessons Learned</th>
<th>Females</th>
<th>Males</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Never held</td>
<td>113</td>
<td>36.0</td>
<td>14</td>
</tr>
<tr>
<td>Crops management</td>
<td>95</td>
<td>30.3</td>
<td>8</td>
</tr>
<tr>
<td>Market information</td>
<td>72</td>
<td>22.9</td>
<td>5</td>
</tr>
<tr>
<td>Livestock information</td>
<td>24</td>
<td>7.6</td>
<td>3</td>
</tr>
<tr>
<td>Learn by doing</td>
<td>10</td>
<td>3.2</td>
<td>1</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td>.9</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>100.0</td>
<td>31</td>
</tr>
</tbody>
</table>

Table 17: Useful lessons learned at field-days by gender
Objective 3: Determine the Functions of the Women's Groups with Regard to Soil and Water Conservation and Food Production

One of the thrust of objective three was to describe the functions of the women's groups. Although this data was collected during the focus group sessions, all groups provided the researcher with some quantitative information which was reported below. Group participants were asked to report the most important function(s) undertaken by their group.

Functions of the Women's Groups

Information about the functions of the women's groups is presented in Table 18. Only 13 groups (20.2%) reported farming as their only group activity. Nineteen participating groups (30.2%) reported farming, and soil conversation as their two main functions. The remaining 21 groups (33.3%) reported three functions: farming, soil conservation, and poultry. Ten groups (15.9%) had functions which incorporated farming, soil conservation, poultry, and hand-craft.

<table>
<thead>
<tr>
<th>Functions of Groups</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming Only</td>
<td>13</td>
<td>20.6</td>
</tr>
<tr>
<td>Farming, and Soil Conservation Only</td>
<td>19</td>
<td>30.2</td>
</tr>
<tr>
<td>Farming, Soil Conservation, and Poultry</td>
<td>21</td>
<td>33.3</td>
</tr>
<tr>
<td>Farming, soil conservation, poultry, and craft</td>
<td>10</td>
<td>15.9</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 18: Functions of the women's groups
All participants in the groups reported some kind of money-circulation activities among their members. Although some groups seemed unclear on how they go about it, most groups were very organized on how they conducted the loaning system. Initially each member donated a specified amount of cash to the club on a monthly basis. At the end of each month, or a pre-determined period, a member was randomly selected to receive all the collection for that period. This was repeated until all members had benefited from the common contributions, at which point, the circle begun again. This cash money, once given to a member, was used in different ways such as purchase of farm inputs and tools, payment of tuition for children, and sometimes, for repaying loan(s) a member may have incurred during the previous farming season.

**Objective 4: Examine Immediate and Long-term Needs of the Women Farmers**

With the use of focus group meetings, the fourth objective was aimed at collecting information with regard to the needs of the women’s groups. Focus group techniques allowed the participants of the session to express themselves in a spontaneous way, which was not restrictive. In these focus group meetings, participants had the freedom of raising issues which were important and relevant to their farming operations in the region. Since some quantitative data collection was also possible during the meetings, this analysis includes a mixture of the information from both the survey and the focus group session. Findings from the focus group sessions have been arranged thematically.

**Immediate Needs**

Despite the richness of their activities and the innovativeness of their programs, women’s groups had important needs which could be easily addressed if these needs were
clearly understood by the Extension administrators. The most important needs were related to farm-tools, especially those used for soil conservation. These groups also mentioned that they needed farm inputs such as fertilizers, certified seeds, pesticides, and planting materials for the tree-crops nurseries they had established in their villages. Other needs included farming inputs, assistance in acquiring agricultural loans, and regular Extension training.

Several of the participating groups believed that the government or the Ministry of Agriculture had given-up on them, and they (farmers) were treated as if they were beyond help. Some sarcasm was noticed in the views expressed by the participants of the focus group. Farmers were convinced that there was very little that the Extension agency could do to help them.

The vast majority of the Digo and Duruma groups from the Matuga and Msambweni division reported uniform sentiments concerning Extension agents. This notions were best captured by one of the attendants in a focus group meeting who said:

*Katika miaka kama miaka mitano hivi twaona hawa watu wa agrikacha watolewa huku kwetu na hatupati walimu wapya kuja kutembelea mashamba yetu. Maana ya kuijunga katika vikundi ilikuwa ni kufanya walimu wa kilimo kuja mashambani kwetu.*

This translated to:

For the last five years or so we have noticed that agents have only been posted out of our areas and there are no new Extension agents
coming to visit our farms. The mere idea of forming into groups was trying to attract and reach Extension services.

However, the need for farm inputs, especially those which needed to be purchased from the local traders was a very pressing and genuine need. For the last three years, farm yields had generally becoming very poor. Floods in 1994 was followed by draught in 1995, and by 1996 Kwale had been officially declared a famine area by the government. In short, farmers have had minimal harvest for the last three years, and they had to eat their planting seeds which originally had been preserved for the on-coming planting season. No food to sell resulted in lack of money to purchase some of the most necessary farm-implements, and this was reported by a big number of the participating groups.

**Farming tools and inputs.** In each group session, the group members cited a number of needs which they considered important for their farming and conservation work to be more effective. The two needs which were mentioned most often were farming tools and agricultural inputs. Specific farm implements mentioned included majembe (hoes), folk-hoes, wheel-barrows, watering cans, and ox-drawn plows for land preparation. For farm inputs, the specific items mentioned most often were: fertilizers, manure, and tree seedlings, pesticides, and certified seeds.

The female farmers were concerned that although these tools and inputs were the basic requirements of any small scale farming enterprise, their unavailability in the district had made it difficult for them to continue farming profitably. Additionally their farm soils kept on deteriorating since there were no tools and equipment to make terraces and/or other soil conservation structures.
Most of the older farmers (50 years and above) could remember when these farming implements were issued by the government free of charge to all the farmers, and more recently, to farmers who had organized themselves to form a women’s group. However, the younger members (below age 50 years) were more concerned not with obtaining free incentives which had stopped coming to them, but with the fact that the local shops and retail stores in the villages did not carry these items especially during the peak farming seasons. A few of the participants in some group sessions were also shopkeepers who owned stores in the villages and had a variety of comments to make with regard to the issue of unavailability of these items in their shops. The following quote was recorded from one of the group session conducted early during data collection in May of 1996:

*Nyinyi mnataka tuweke hivi vitu na hamkuji kununua. Si mwaka jana niliwaeka mbegu ya tamata ile mlikuwa mnataka na yote si ilioza kwa duka yangu. Mbona mnaogopa kusema kweli kuwa hamna pesa za kununua hivi vitu. Dukani kwa Mbugua ana majembe hata sasa yako mbona hamkwendi kuyanunua. Matatizo yetu ni kuwa... sirikali lazima watusaidie kwa sasa. Mwaka jana tulikuwa na ukame na ule mwaka mwengine tulikuwa na mvua nyingi na ambayo pia ilihiaribu chakula yote, kwa kweli sisi tunataka msaada wa hivi vifaa.*

Translation:

You want us (the shopkeepers) to stock these items and you never buy anyway. Just last year, I stocked tomato seeds, the variety which you all liked.
and all of the seed got spoiled on my shelves (because they were never bought). Why do you fear to speak the truth that you do not have money to purchase these things. At Mbugua's store he still has hoes for sale, they are available even now why don't you go and buy them? Our problems is...the government must help us for now. Last year we had drought in the district, and the previous year we had excessive rains which also ruined our food crop. Seriously we need help to obtain these implements. Some of the comments made by the farmers included the following:

- I cannot afford farm inputs, tools and school fees for my children. These expenses are overwhelming to my family.

- We know there are many farmers receiving assistance from the government, why not us in Waa or Matuga. They make us pay taxes just like any other citizens.

- We formed this group in order for us to be visible to the government services. Our need for financial assistance is justified by the bad weather we have had in the last two years in a row. We did all what you recommended in terms of proper planting, land preparation, and timing. These (practices) we could do because they did not cost anything but farm inputs are very expensive.

- The Extension agents come to our meetings and group farms, but they all come empty handed. This year we would have appreciated if they (Government) had helped us with more seeds not only for the group farm, but also for our individual farms.
• The seed I kept for this year had to be made into meals for my children. Therefore, I had nothing to plant thus the reason for my small acreage this year. If I do not get assistance for next year I will never plant at all.

• If I am provided with the inputs I need, and the weather was going to behave next year, I will never need government assistance anymore.

• The trees we plant are for the benefit of all the people in and out of this village. I think this should be a good reason for the government to give us free seedlings.

• Let me list what we all need: We need tree-seedlings, fertilizers, wheelbarrows, uninfected sand for our tree nurseries, hoes, and watering cans. I cannot afford crop seeds for my farms. If you (the government) can arrange to provide these now we will be in a better position to face the weather, pests and hunger in the future.

Essentially, the farmers needed these tools and inputs for their farming and conservation work in the villages. In most villages, there were few retail stores, and most of these stores were never stocked with agricultural products, and for the few stores which were stocked with the needed items, not all the farmers could afford to purchase these inputs and tools. Important factors which may have caused this to be reported as the most immediate need may include the floods of 1993 which were followed by drought in 1994-1995, these catastrophes were also mentioned by the participants quoted above.

Female farmers from Matuga and Msambweni divisions mentioned more needs than their counterparts in the Kubo division. One cause for this could have been that the
few retail stores which carried agricultural tools and inputs were all found in Shimba Hills area in the Kubo division. Whereas farmers in the Kubo division emphasized inputs and tools for soil conservation, farmers in the other divisions, namely Msambweni and Matuga required the same inputs for their crop farms. There were more soil conservation activities and functions in Kubo division than the other two areas.

**Agricultural loans.** Another issue firmly expressed by the participating members of the session was the unavailability of agricultural loans to farmers. Very few of the participating members of the group session had received agricultural loans in the past five years. Farmers considered this problem to be connected to the above issue (inputs) in many ways. In many sessions farmers cited that without farm loans, female farmers were less likely to be able to afford the inputs recommended by Extension agents. Subsequently, this led to fewer contacts with the agents, since such farmers seemed (to the agent) as farmers who were not following the recommended Extension practice. One male participant commented that:

> *Ule mwaka nilipata loni ya AFC (Agricultural Finance Corporation) nilikuwa napata wageni wengi tu. Lakini baada ya hapo hata huyu mwalimu wetu hakuji sana.*

Translation:

That year I received an agricultural loan from the AFC I used to get many visitors (Extension agents and their supervisors). But after that (period), even our own Extension agent does not frequent here anymore.
Although the problem of farm loans seemed to affect all the farmers in the district, women farmers seemed to be affected more since most of them were totally dependent on farming as opposed to their male counterparts who always seemed to have some alternative sources of income. Many participants felt that they were being bypassed by formal loaning systems due to many reasons. To obtain a loan, the AFC bank always required (a) proof of land ownership, (b) skilled farmer, (c) certain literacy level, (d) previous farm records and (e) collateral. Female farmers often shied away from these requirements since most of them (a) had lands without title or the ownership documents, (b) did not have collateral and (c) kept very little farm records (if any). A few of the participants felt the risks involved in farming had become too many. Floods and drought for the last two years had not encouraged farmers in Kwale to make any financial commitments especially when one's land was in the danger of being repossessed by the loaning banks.

Following were some of the comments recorded directly from the participating members of the focus group sessions:

- I have not applied for a loan before. But even if I apply for it now who is going to give it to me? This is not my farm, it is owned by my father and I don’t know who (among the siblings) has the title-deed.

- These loans from AFC are not for me. I wish the government could revive the GMR (Guaranteed Minimum Return Loans) system where our crops served as collateral, and our agents were our co-signers. I am too scared to apply for a loan because they may take my land away if I don’t pay in time.
• I have not applied for a loan though I need it this year. The problem is—I don’t even know how to fill out a loan form, and I don’t really trust these semi-illiterate children we have. I don’t know what they are learning at schools nowadays.

• If our women’s groups were assisted (by the government), we would be able to provide loans to ourselves. Right now we are contributing a little amount to the group every month but the money is too little for distribution among the needy members.

• I hate the idea of the so called “bank security” (collateral). Why can’t they take the risks sometimes. Do we know if the rains are going to come or not—yet we always farm and plant trees. We all need money for our farms.

• I think we lose both ways. If we do not get agricultural loans we can’t purchase the necessary inputs, if we can’t have these inputs our crop yields decline or fail completely. Extension agents always visited the farmers who used fertilizers and manure and pesticides. Therefore, if you do not get a loan there are so many things you would have to forfeit. But we must find a way of assisting farmers, both male and female. We are all victims of the banks, bad weather, pests and diseases.

• I am one of the poorest farmer. I mean I am broke regardless of the fact that I work everyday. Forget about everything (we have talked about today), my son, I need a loan for my family to survive.
The reason I did not use Katumani (an improved variety of corn) last year was lack of cash. I like Katumani but the variety needs special care and inputs for it to yield properly. You either have a lot of money or you don’t plant Katumani.

The government is pulling out of every project and program it had for its farmers. That is why the need for financial assistance is more important now than any other time.

Most of the farmers we not able to apply for farm credit or loans. Either they were not eligible or lacking in information and people to approach for advise. For those who could apply, there were many restrictions attached to the application process which were unrealistic for the poor female farmers in Kwale. Since most of the land had not been demarcated (official land allocation process conducted by the Ministry of Lands and Settlement) in Kwale district, most farmers did not have documentation to prove ownership of land. It was therefore, inappropriate for the AFC to use title-deeds as a condition for a loan. Illiteracy, especially among the women farmers, made it almost impossible for most farmers to keep records. These and many other factors have made it almost impossible for the rural farmers to obtain agricultural loans because of the present conditions as set by the government bank AFC.

Short term needs mentioned with less frequency related to the number of visitations by the Extension agents to the group farms and Extension training. Many group members felt that as far as their groups were concerned, visitations by the Extension agents were satisfactory. This was true for most of the groups in all the areas where the
study was conducted. The same farmers, however, cited that even though agents came to their groups they hardly saw the agents on their individual farms.

Most female farmers who participated in the sessions had a unified agreement as to the gender of the Extension agents serving their groups. Whether the agent was male or female did not seem to affect the quality of interaction between the female farmers and their agents. Group members were more interested in an agent who worked hard, understood their problems and needs, knew his/her job well. The best agents, the farmers contended, were those who empathized with the groups, and demonstrated compassion in their dedication to their official work and the women's groups they served.

**Long Term Needs**

Due to the persistent lack of cash among member, most of the groups indicated a need for starting income generating projects. Some examples of income generating projects in progress included: group owned housing units for rent, livestock projects, basket making, and makuti (thatching materials made from coconut leaves). Farmers needed cash for purchasing food and other necessary items for their farming needs.

Several groups listed farming inputs such as fertilizers, manure and seeds as their long term need. These groups wanted to establish a farm input supply system managed by the groups, with a primary objective of ensuring an efficient and timely supply of farm inputs during planting seasons. Other groups reported agricultural loans/credit to their members as their long-term need. These loan/credit projects, they reported, could only be achieved with the direct intervention of an outside agency but not the government.
Some members in the sessions felt that such a loan program, for it to be successful, the government must coordinate it. A few groups mentioned that they were planning for a common-house for the members. This house, as explained by the members, would serve as a facility where the group members were going to assemble for meetings, training, and recreational activities. A couple of the participating groups reported that regular Extension services to their farms was their most important need. Members from some groups reported that they had not thought of any long-term plans.

**Income generating projects.** In each group session, the farmers cited a number of long-term projects for their groups. The two projects mentioned most were income-generating schemes and a permanent solution for their farm inputs dilemma. In establishing profitable income-generating projects, farmers strongly believed that their problems in obtaining inputs would be solved by the extra cash obtained. Specific income-generating projects were identified. Handicraft was favored by most groups as one way of raising cash for the group. In Kwale district, there were many tourist hotels that provided a ready market for these items. Poultry farming was also mentioned as the preferred enterprise for providing extra cash.

Farmers demonstrated a lot of willingness to pursue these two projects because of the following advantages: (a) the initial starting capital for both projects was very low; (b) they were all projects which required a lot of labor which was readily available among the members; (c) there was a good market for the handicraft and poultry products from the tourist hotels; and (d) the end product was not bulky, thus, created very little transportation problems even for the groups located in the remotest villages. For the two
mentioned enterprises, most groups had established them or there was clear evidence that the projects had started.

Although the projects seemed to have taken off very well, most of the group members reported that these projects needed to be strengthened from outside. Participating members reported that despite their achievements in establishing the handicraft and poultry projects, they still needed support from the Extension agents, and the government in general. Their main concern was in building permanent poultry houses to replace the semi-temporary structures most of them had. In this respect, the farmers were very concerned about the rising costs of building materials such as cement, iron roofing materials, bricks and other materials. In all the groups which had started poultry projects, they listed building materials and construction cost as their main need to improve their poultry buildings. They needed financial assistance in obtaining these materials.

As for their handicraft projects they wanted the government to secure and improve their market by assisting them in advertising their products and stopping illegal sales of handicraft by other people from outside the district. Most participating members felt that their market is threatened by other handicraft items obtained cheaply from the neighboring Tanzania.

The following were comments made by the participants across the sessions.

- Our long term objective is to have permanent solution for the cash problems in our group. In the past, we had depended only on agricultural produce, but the competition was very tough for us. Now we think the poultry farm is going to rescue us but we still need help.
• The poultry houses are falling apart because we did not build them with cement and iron roof. The mud walls are not as strong, and some animals are predating on our chicken. Poultry houses build with cement and strong wire-mesh are long lasting and easy to clean.

• This (holding a hand-made basket in her hand) is going to be our cash earner for now. I am not certain about tomorrow because everybody else is doing the same and the white people (European tourists) are not buying anymore.

• We need these materials (cement and iron roof) but we also need transport of these materials to our village. Last year, two businessmen donated to us cement and roofing materials, but there was no one to transport them from Mombasa. When we got it, the cement had turned into a stone and the roofing materials were rusting.

• The Tanzanians are bringing the same baskets from their country but they sell them cheaply. I think the government should stop them.

• Last year we started with a few chicken now we have more than two hundred. We even have a present for all of you once we finish our meeting.

• I will buy a bag of fertilizer from the sale of the eleven baskets that I made.

• We did not have any idea how easy poultry farming could be until the Extension teacher taught us how to build a simple chicken house with local available materials. But these houses cannot keep many chicken, so we need to put up permanent buildings.
Many people have come to see our projects and they wanted to learn our secret from us. We usually tell them that we don't have any secrets, but hard work.

Most of the participating members felt that income-generating projects were the future of any successful group. Although the two above mentioned examples were the most popular—projects undertaken by the groups in the district, there were many other opportunities in this respect. One group in Matuga had started an oil press in their village, and other groups had started water kiosks (to sell water) and many other wonderful projects all over the district. In general these projects had the support of all the members and created competition not only within the group, but among other groups which wanted to generate cash.

Most of these group needed and deserved government assistance not only in the areas of securing their markets and providing permanent building materials, but also in the areas of frequent Extension training and motivation from Extension agents. However, the danger of emphasizing these business-oriented projects often undercut the agricultural production and soil conservation activities by these, otherwise, very active groups.

Groups which were successful in money generating projects often had unfinished farm or conservation projects. The most successful groups were on the verge of becoming totally non-farm (business) groups. Either, the size of the farm-land had reduced because members were busy doing non-agricultural tasks, or the farming was completely stopped due to the shifting of all the labor resources into handicraft or poultry.
Therefore, in solving farm inputs and cash problems, these groups have been forced to shift their original attention towards income generating projects. This may have long term adverse effect on the food security and soil erosion. Where this was the case, it is the duty of the Ministry of Agriculture to advise and remind the groups of their original objectives and roles in the community. It is imperative that such groups are advised to continue with their original mission of conservation and agricultural production.

Long term loans to members and common house. The issue of loans to group members was repeated when women’s group members were asked about their long term needs. Participating members cited loans as a measure which will solve most of their farming problems. Women’s groups’ members felt that by building their capital and resources and the total net worth of their groups they would make themselves more safe for the banks to consider giving them loans.

In this direction, the following were suggested as good investments in as far as making the groups more credit worthy: (a) common house for members (for use by members and for rent to other people who want to use the house for events, wedding celebrations, etc.); (b) housing units for rent to civil servants and teachers in the villages; and (c) other physical facilities such as cattle dips and water-kiosks.

These assets when owned by the group, could be collectively used as collateral for loans and other form of borrowing. The following comments were made by members with this regard:
• We don’t get loans because we have not overcome the collateral problem. By building houses and other agricultural facilities (e.g. cattle-dips) we will at least give something for the banks to hold.

• Usually, you don’t get anything from nothing, and by building houses we may get loans, for at least a few members at a time. However, I am not sure how we are going to construct houses without initial assistance from somewhere.

• We will build one house at a time with local available materials. The income from one house will build another house, and another... Other groups have done it and we should copy that example instead of waiting to be helped by outside people.

• As long as the government will encourage its civil servants and teachers to rent our houses, we should not have problems pulling this (idea) off.

Most of the farmers believed this was a viable long term plan. Several reasons made this a possible venture: (a) government was ready to donate land(s) space for this projects as long as it was a group projects; (b) all the materials for building residential houses were easily obtained and could be assembled by members or obtained very cheaply; and (c) most members were ready to provide construction labor and expertise. Members believed that the quality of their group would be judged not only with how many members they had registered, but the amount of property owned. The groups had to actively begin to attract prospective loaners by engaging in increasing the net-worth of the their groups.
Objective 5: Ascertain Problems Faced by the Women’s Groups

Ascertaining the problems faced by the women groups was the fifth objective of the study. The analysis, like on the last objective, benefited from qualitative and quantitative data gathered during the meetings.

Problems Faced

About one half of the participating groups reported, a combination of poor roads into their villages, as well as acquisition of farm credit as the main problems facing their members in that area. Several groups reported acquisition of farm credit as their major problem. Other participating groups repeated that poor roads were the major bottle-neck to development in their locations. Lack of or inconsistent Extension services was also reported by several groups as a problem in their villages.

Most of the problems reported by the groups seemed to be stemming from the transportation problem. Most participants cited poor roads as the main reason why they were not visited regularly by Extension agents. This problem did not only affect Extension services alone, but even the other government officials and other public services.

The problem became even worse during the rainy seasons, a time when farmers needed all the supplies such as seeds, fertilizers, manure, and pesticides. After obtaining all the farm inputs, sometimes by carrying them on their backs over hills and rivers, farmers, then, found themselves with the problem of transporting their produce to the nearest markets.
The discussion about problems faced by these groups brought in a lot of the comments already discussed in the previous themes. There was repeated mention of farm input, loans, tools and cash problems. Since most of the problems had been discussed in the earlier discussion, the members of the women's groups directed their discussions towards problems generally faced by the villagers. Some of the comments were a mixture of problems ranging from agriculture, family planning, health care and facilities, transport and other constraints faced by the villagers. However, in this analysis, emphasis was placed more on the transportation problem not because transportation issue fell under the agriculture department (because it was not), but because it was a theme directly affecting agricultural production of the areas. Below are comments directly taken from the discussions during the focus group sessions

- Roads bring in development to the people. Now my son (referring to the researcher), you are probably wondering why we want "Agriculture" (The Extension Department or Ministry of Agriculture) to help us with the roads? "Agriculture" is the only government we see here in these villages. There are no mayors or commissioners out here but our Extension agents—and that is why we want them to assist us with our roads. We hope they (Extension agents) will take our complaints up to the powerful people.

- If we had good roads, lorries (trucks) would come to our villages during the harvest time to take our oranges and mangoes to the big cities.

- The only time Extension people came here was when they were desperately in need of something, such as statistical information or exhibits for the National
Fair (show), otherwise, we do not see them. This does not mean I blame them...you would probably need a horse to come here (a joke).

- Seven years ago the government asked us to build two classrooms for our school. That we did. It was something we could not afford to do, but we were able to involve everyone and contributed labor and money until we completed the task. This was because the benefits of these classrooms was directly coming to our children, and it was also a task which was not beyond our means. We have also constructed a Maendeleo house for our group, but we can not construct roads. This is something the government must do for us.

- The reason why we cannot produce more is because we can’t ship our produce to the market in good time. Good roads will encourage vehicle-owners to bring their lorries to the villages.

- We have roads. However, the problems with these roads is that they are impassable during the rainy seasons. Ironically, we need the roads more at these (rainy season) times than any other time, because that is when we want to bring in seeds, and other inputs from the city.

- We have been isolated from everything. We cannot get agricultural loans, we cannot have regular Extension teachers, and we cannot sell our produce due to the poor roads.

- Who will blame the Extension agents if they don’t come to this village? It is not only roads which are missing, in this village there is not even a dispensary if one was to become sick.
The participants of these sessions strongly felt that all their problems were compounded by the absences of good links to the main towns and trading centers. Lack of good roads had resulted in (a) problems in obtaining farm inputs, (b) inadequate Extension visits by agents, (c) no farm credit, since credit agents were also hindered by the impassable roads, (d) no incentives for the farmers to increase their acreage/yields due to anticipated marketing problems, and (e) isolation of farmers from the rest of the country.

**Objective 6: Assess Extension Visitations and their Usefulness to the Groups**

This objective sought to assess Extension visitations to the groups and also measure their perceived usefulness. Information was collected through the focus group method which allowed for both quantitative and qualitative data. Instead of only asking participants how many times they were visited by an Extension agent, focus group method allowed the researcher to gather more informative data. The participants, on the other hand, were able to provide more in-depth insights into the issues.

**Accessibility of Extension Services**

A few of the groups reported no visitations from Extension agents during the last farming season. Several groups indicated that they were visited about three times in a month. A few groups reported Extension visits ranging from four to eight times a month.

Considering the important functions of these groups, in terms of food production and soil conservation, the reported visitation frequencies were slightly on the lower side of what would be considered optimal Extension visitations. The argument in support of group-Extension, as opposed to individual or contact-farmer visitations, is that group
Extension will ensure equity and economical approach to reaching more farmers (World Bank, 1992). The individual Extension process, it was felt, concentrated on selected progressive individuals (Aloo, 1985; Leonard, 1977; Mutiso, 1987; Potash, 1985; World Bank, 1989; UNDP, 1992). Thus, group Extension was emphasized and promoted by the Ministry of Agriculture in Kenya.

From observations and in-depth discussions with some group members, it was realized that there was still some bias. Extension agents tended to prefer some groups more than others. For instance, it was evident that those groups which reported more Extension visits were groups which had the following characteristics: (a) farmed relatively large areas of lands, (regardless of membership composition, gender of members, or level of education); (b) located near the main access roads, or regularly met near a village center; (c) concentrated their efforts on growing both cash and food crops; (d) used by the Extension establishment as model groups (e) received regular supply of inputs and farming tools, and a number of incentives; (f) composed of less illiterate or younger members compared to groups which had older and less educated members or leaders; and (g) enjoyed the benefit of being included in the district-wide farm competitions every year.

On the other hand those groups which reported either no or fewer Extension visits (less than one visit) per month were groups which had characteristics opposite the groups described above. For example, these groups (a) farmed on small pieces of lands; (b) located in remote areas which were difficult to access by road; (c) cultivated mostly only food crops; (d) rarely visited or shown to Extension leaders from out of district; (e) rarely received any free inputs or direct assistance from Extension; (f) frequently composed of
older members who were generally poorly educated or completely illiterate; and (g) never
been involved in any farm competition. Comments from focus group members about this
issue included:

• Our Extension agents passed away last year, rest in peace. Since then there
has been no one from Kwale or Matuga. It is as if her (the agent) death was
the end of our group too. Nowadays the group has also collapsed... because
if you call for a meeting only a few show up.

• I think I am satisfied with the Extension agents visits in our group. However,
the time we have with him is not enough. We need him more for our individual
farms. I do not see the Extension agent on my farm.

• What we learn from the group training is enough. We can always transfer that
information to our individual farms. It will be really good to have the agent
come to our homes and individual farms, but to be realistic, I think we are
fortunate to have him (the agent) visit our group. In Lungalunga (where I was
farming before I came here) our group was never visited.

• The agent brought us seeds and fertilizer (for demonstration on our group
farm). Since the floods there has been no fertilizer, seeds or the agent himself.
I think he has nothing to offer us anymore.

• The first time I saw an agent visiting us was when they came to announce this
meeting (referring to this focus group meeting).

• It is the Extension agent's efforts which had helped our group to be what it is
now. I think he (referring to the area's Extension agent) works very hard, and
we all like him. The motorbike helps him to visit us every week (the only agent in the area who owned a motorbike).

- The whole of this location is dependent on one Extension agent. There are no roads to our village and it is unlikely to expect him to come every week. At least last week he came to announce for this meeting.
- We learn a lot from the agent. He motivates us to plant more trees and food crops.
- Our Extension teacher is very good. Yes, he is a man, and we are all women in our group, but he understands our problems and he tries to help each one of us. After all, his work is agriculture not family planning or home management.
- Our group has no Extension teacher. We teach ourselves. We have never been visited for the last two years.
- Our groups farm is very far, and our efforts to get a nearby plot has not been successful. The last time the agent came, there were only four (out of nearly twenty members) people in attendance. This was very discouraging for a man who has traveled all morning to see us. Our agent rarely comes to our farm now.

Although Extension agents seemed to have emphasized working with groups rather than individual farmers, their strategies seemed to be very selective and thereby excluded many groups which were in most need of their services. Group-focused Extension in Kwale had not eradicated bias, rather, preferences of farmers continued but in a different form. It was recognized however, that more farmers were reached as a
result of the group strategy. Otherwise, there were more farmers who thought that they have been segregated and left out even after working hard to form and maintain active farmers' groups.

Usefulness of Extension Agents Visits to the Groups

Most of the participating groups felt Extension visits were important. They described the advantages of having regular Extension visits as follows: (a) group motivation; (b) increased activities; (c) improved yields; (d) increased incomes; (e) acquired current information; and (f) reported higher levels of personal satisfaction from their farming enterprises. For those participating groups which reported that Extension visits were not useful, they had one common observation to make. Participants in these sessions reported that they had not benefited from Extension or any government program for that matter. These were the same groups which were isolated and had no Extension agents serving their areas. They reported that the relationship they had with Extension agents or any government official for that matter, was of mutual distrust, and they saw the Ministry of Agriculture (Extension) at best as irrelevant to their needs, and at worst as part of the structure which had ensured that they did not benefit from their lands and other resources. One participant represented a view shared by most of the members of the women groups that reported inadequate Extension services.

Sisi tulifanya hivi vikundi vya kina mama kwa sababu walisema watakuja kututembelea. Pia tulilipa pesa kwa mtu wa Social Services na kikundi chetu kikawa halali Lakini watu wa kilimo hatowaoni. Mtu wa serikali anaekuja kwa kikundi chetu huwa anataka pesa za Harambee. Hata sasa tukisikia Chifu anakuja tunajificha huko mashambani kwetu.
Translation:

We formed these groups because they said they will visit us (if we organized ourselves into groups). We also paid our registration fees through the Social Service worker and our group is legally recognized. However, we don’t see the Extension people. The only government people coming to our group, usually, comes to solicit *Harambee* donations from us. For now, when we are told the Chief (government administrator) is coming we hide in our farms.

On the other hand, those groups (90%) which reported that Extension was useful to their work, were groups which worked very closely with Extension, and the local government administration in general. It was observed that some of these groups were completely dependent on the Ministry of Agriculture for their existence as well as for the group’s access to information, agricultural inputs, and farming tools. Still, regardless of total dependence on the government, a few of these groups had their own identity, priorities, activities, and procedures with close cooperation with the Department of Agriculture. Some of the recorded comments from the group members included:

- There are a lot of benefits in Extension training. We learn how to plant in lines and we have seen the benefits of that. The agent has taught us very many things since we started our group.

- We learn how to use certified seeds, manure, and fertilizer. It is not true to say we did not know about these things, but we always learn new ideas and how best to maximize our profits.
- We learn about taking care of animals, soil conservation, how to use less fuel, nutrition, vitamins, family planning, and proper cooking. We also get training on how to make *fanya juu* (soil conservation terraces).

- Extension teachings are useful in helping us improve our lives and conditions in the rural areas. We learn new things every time we are visited and we share this information among ourselves. In that way, even those who do not attend our Extension meetings end up benefiting as well.

**Objective 7: Determine Members' Benefits Received from Participating in the Women's Groups.**

The seventh objective determined the benefits members received from their groups. This question was asked in both the focus group sessions and the individual surveys. The following analysis combines findings from both responses.

**Benefits to Groups**

There was a unanimous agreement that all members do benefit from their groups in one way or the other. Many groups reported that their primary benefit from their groups was in accessing Extension training and advises. They indicated that this was not only beneficial to their groups' farms, but the information they learned served them for their individual farms as well.

Several group members reported that the groups' farms were like schools for them, and that their individual farms was where they practiced and applied the knowledge learned. Members cited the following as benefits for being a member in a group: (a) learning agricultural and horticultural information; (b) gaining cash profit from their
income-generating projects; (c) obtaining financial assistance from within their groups; and (d) learning useful information from other members. A few groups reported receiving all the above benefits from their groups.

As far as Extension visitations were concerned, it was observed that, some groups had benefited more than others. Undoubtedly, group Extension had had an impact in Kwale but this had only been felt by a few groups in the district. It was doubted if there were any efforts at the time by Extension personnel to address this issue, because it was also obvious that some groups had been totally ignored due to their geographic locations and the state of their roads as well as other factors which were beyond the groups' control.

However, groups offered many other advantages to the female farmers in Kwale. In the Moslem areas of Msambweni, Matuga and some parts of Kubo divisions, the cultural difficulty of male-female interaction was considerably reduced. Moslem men had no objections in allowing their wives to meet with a male Extension agent as long as the meeting took place in a group. This had opened up opportunities for Moslem women to pursue their farming and soil conservation activities with reasonable assistance from the agents.

Other benefits mentioned by the female farmers included sharing of agricultural tools and equipment. Chemical sprayers, watering cans, and hand held hoes were some of the items frequently mentioned. Most of these tools and equipment were items that individual farmers could not afford on their own. Comments made about benefits of members included the following:
• Since the agent does not come to my plot, I come here (to the group’s plot) to learn what I should do on my farm.

• I work at the school all day, but when I visit with the other members in the evening I learn what has happened. If I was not in a group, like most of the other teachers, I would not be able to benefit from Extension.

• The money (saving system) we have is very useful. I get to pay a lot of my debts through this program.

• I get to meet other women and discuss our common problem. We share our farming tools and help each other in farm or household duties.

• Last year I received vegetable from our group’s farm. I had planted the same on my plot, but I was not able to take care of my farm like the way we did on our group’s plot.

• When we harvested our oranges this season we combined all our harvest and it was enough for the local traders to bring in a lorry to transport the produce to Mombasa (market). On my own I could not harvest or afford a lorry-load.

**Objective 8: Examine How Religion and Language Influenced Extension Visitations**

The eighth objective examined how religion and language of the farmers affected the frequency of Extension visits to their farms. Information was collected through the face to face interview method. To determine the relationship between these variables, Crosstabulations were prepared and measures of association were computed.
Religion

Table 19 summarizes information on the relationship between religion and Extension visits. There was a low positive association (Cramer’s V=.26) between religion and number of visits to the farmer. However, 80% of the participating farmers who were never visited by an Extension agent during the last farming season were Moslems, compared to only 18.3% participating Christians. Traditionalists who reported that they were not visited comprised only 1.7%.

The farmers who were visited most (i.e., once every week) were Christians (69.3%), and Muslim farmers accounted for only 29.5%. For those farmers who were visited at least once per month, 77 (55.8%) were Christians, and 58 (42.0%) were Muslims. Participating farmers who were visited once in the farming season were Christian (64.1%), and Muslims (33.3%).
Table 19: Visits by Extension agents and religion cross-tabulations (Cramer’s $V=0.26$)
Native Language

Tables 20 summarizes information on the relationship between the native languages spoken and rate of Extension visitations during the previous farming season. There was a low positive association (Cramer’s V = .22) between native languages spoken and rate of Extension visits to the farmer. Nearly 71.7% of the Kidigo speakers were never visited by an Extension agent during the last farming season compared to only 8.3% and 11.7% of the Kiduruma and Kamba speakers respectively. Only 8.3% of the remaining languages speakers reported not to have been visited. Most of the other languages speakers were people outside Kwale district. According to the native languages they spoke, farmers who had the most visits (i.e., at least once every week) were the Kamba speaking people (61.4%). For the Kidigo and Kiduruma speaking people only 27.3% and 4.5% had one Extension visit per week respectively. About half (49.3%) of the farmers who spoke Kikamba reported to have been visited at least once a month, compared to only 37% and 8% of the Kidigo and Kiduruma speaking people respectively.
<table>
<thead>
<tr>
<th></th>
<th>Native Language</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kdgilo</td>
<td>Kduruma</td>
<td>Kkamba</td>
<td>Other</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Visit by extension agent</td>
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<td>5</td>
<td>7</td>
<td>5</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>71.7%</td>
<td>8.3%</td>
<td>11.7%</td>
<td>8.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>12.5%</td>
<td>1.4%</td>
<td>2.0%</td>
<td>1.4%</td>
<td>17.4%</td>
</tr>
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<td>Weekly</td>
<td>Count</td>
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<td>4</td>
<td>54</td>
<td>6</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>27.3%</td>
<td>4.5%</td>
<td>61.4%</td>
<td>6.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>7.0%</td>
<td>1.2%</td>
<td>15.7%</td>
<td>1.7%</td>
<td>25.5%</td>
</tr>
<tr>
<td>Monthly</td>
<td>Count</td>
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<td>11</td>
<td>68</td>
<td>8</td>
<td>138</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>37.0%</td>
<td>8.0%</td>
<td>49.3%</td>
<td>5.8%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
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<td>3.2%</td>
<td>19.7%</td>
<td>2.3%</td>
<td>40.0%</td>
</tr>
<tr>
<td>Yearly</td>
<td>Count</td>
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<td>4</td>
<td>24</td>
<td>2</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>23.1%</td>
<td>10.3%</td>
<td>61.5%</td>
<td>5.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>2.6%</td>
<td>1.2%</td>
<td>7.0%</td>
<td>6%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Whenever there is need</td>
<td>Count</td>
<td>12</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>60.0%</td>
<td>5.0%</td>
<td>35.0%</td>
<td>100.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>3.5%</td>
<td>.3%</td>
<td>2.0%</td>
<td>5.8%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>139</td>
<td>25</td>
<td>160</td>
<td>21</td>
<td>345</td>
</tr>
<tr>
<td></td>
<td>% within</td>
<td>40.3%</td>
<td>7.2%</td>
<td>46.4%</td>
<td>6.1%</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>40.3%</td>
<td>7.2%</td>
<td>48.4%</td>
<td>6.1%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Table 20: Visits by Extension agents’ and native language cross-tabulations (Cramer’s V= .22)
Reasons for the Differences in Visitations Rates

Although the overall differences and associations were low, the discrepancies in Extension services delivery to the farmers had a negative effect on the indigenous farmers. The local farmers who originated from within the district seemed to get fewer services, not only from the agricultural Extension department, but from all the government offices in general. There was a common feeling among the indigenous participants, that the government services, such as education, health, job opportunities, all favored the non-indigenous people residing in the district. This had obviously reduced their participation in and attendance at informational meetings or agricultural demonstration.

Extension agents compatibility with the farmers. The Extension staff composition had an overwhelming majority of people from other district other than Kwale. Although the field staff serving the villages had a better mix of locals and upcountry agents who were able to speak most of the languages in use, only few of these agents were working in areas where they could use their first languages. This meant that even for the local Extension agents originating from Kwale, they often found themselves working in villages or communities where they had to use Kiswahili or English to communicate with the farmers. A few of the farmers could speak Kiswahili but almost none spoke English. Since most of the Extension agents were from the upcountry regions of Kenya, the upcountry farmers, mainly the Kamba speaking farmers had a communication advantage over the Digos and the Durumas.

Perceptions of upcountry people about Kwale farmers. Interviews with the Extension agents, local Kwale people and immigrant farmers revealed some long standing
attitudes which could help explain why there were few governmental opportunities or programs provided to the indigenous Kwale farmers as opposed to their immigrant counterparts like the Kambas. There was a very strong tendency for the upcountry people, who formed the majority of government employees including Extension agents, to regard the indigenous Kwale people, and the Coastal ethnic groups in general, as lazy, undisciplined, and unmotivated, thus undeserving the economic opportunities in their own districts or administrative resources from the government.

The District administration versus the local people. The central government has, since independence, ignored the coastal districts (particularly its indigenous people) in many of its program and projects, be they agricultural or otherwise. In Kwale, specifically, the lack of attention by the government officials at the district level has also been replicated by the local authorities. None of the high ranking government officers of the government were from the area. For example, in the Kenya Human Rights Commission Report (1997), the situation in Kwale's schools was described as:

“Over 90% of the schools, for example, do not have workshops and home science rooms. In many of the schools students have to sit on the floor due to lack of desks. Over 30% of the teachers are untrained, and in some of the schools we visited virtually the entire administrative and teaching staff is from the upcountry which, though well-meaning, lacks the cultural skills and background to effectively guide Digo and Duruma students through the educational process” (p.16).

This report added that this neglect has led to an unusually high ethno-nationalist consciousness in the area that has, of late, been expressed violently.
Objective 9: Describe Extension Agents on the Following Selected Demographic Characteristics: (a) Age; (b) Gender; (c) Education; (d) Language and Ethnicity; (f) Religion; and (g) Work Experience

The ninth objective of the study was to identify selected demographic characteristics of the Extension agents serving the women farmers interviewed in the study. Several selected characteristics of these Extension agents were considered important in describing the population of this study, its distribution, and perceptions.

Age

Age of the participating Extension agents is presented in Table 21. Most of the Extension workers in Kwale were aged between 41-50 years (40.7%), followed by those in ages between 31-40 years (37%). There were only 5 (18.5%) Extension workers who were between ages 21-30 years old. Of those interviewed only one agent was above 50 years old.

<table>
<thead>
<tr>
<th>Ages</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-30 Years</td>
<td>5</td>
<td>18.5</td>
</tr>
<tr>
<td>31-40 Years</td>
<td>10</td>
<td>37.0</td>
</tr>
<tr>
<td>41-50 Years</td>
<td>11</td>
<td>40.7</td>
</tr>
<tr>
<td>51-Above Years</td>
<td>1</td>
<td>3.7</td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 21: Age of Extension agents
Gender

Table 22 presents information on the gender of the Extension agents. There were only 4 (14.8%) female agents, compared to 23 (85.2%) male Extension agents.

<table>
<thead>
<tr>
<th>Gender</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>23</td>
<td>85.2</td>
</tr>
<tr>
<td>Female</td>
<td>4</td>
<td>14.8</td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 22: Gender of Extension agents

Therefore, a typical Extension agent in Kwale district was male, young to middle ages, and relatively highly educated compared to the participating farmers' educational levels. It was observed that while there were no major problems in Extension agents visiting general households in the area, there were still some customs which restricted unrelated male-female interaction in any situation. It could, however, be a problem if there were more male Extension agents serving female farmers like the situation in Kwale. This was particularly problematic in Islamic households. However, information from the groups suggested that the gender of agents was not a problem, as long as the agent was ready to work with them and that the agent was knowledgeable in matters related to their group's objectives and functions. This may be true in the sense that groups tended to offer a slightly less suspicious atmosphere as far as male-female interaction was concerned.
Highest Educational Level Attained

Table 23 presents information on the highest educational levels attained by Extension agents. The majority of the participating Extension agents (63%) were individuals with some college education. This level represented individuals who have received certificate after completing two years of agricultural and/or Extension training after high school. Four (14.8%) had received a college diploma (equivalent to a graduate of a community college), and three (11.1%) were High School graduates and the same proportion represented those who completed Elementary/Primary school. Both the diploma holders and the certificate holders from agricultural training institutes were highly competitive in their work, given the proper support and tools such as transport, leadership, and supervision from the district level. However, the required support was not present most of the time. For those agents who worked in villages where there was no language barrier for them, they were highly effective in communicating with farmers.

<table>
<thead>
<tr>
<th>Highest Level of Education</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary school</td>
<td>3</td>
<td>11.1</td>
</tr>
<tr>
<td>Secondary School</td>
<td>3</td>
<td>11.1</td>
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<tr>
<td>College Certificate</td>
<td>17</td>
<td>63.0</td>
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<tr>
<td>College Diploma</td>
<td>4</td>
<td>14.8</td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 23: Highest educational level attained by Extension agent
Languages Spoken

Information on the languages spoken by participating Extension agents is presented in Table 24. All the agents interviewed spoke Kiswahili, the national language of Kenya. Those who reported high school level of education and beyond also spoke fluent English. In addition, all of the agents spoke another vernacular as their first language, and it was these languages which were reported on Table 32. Roughly, equal numbers of agents spoke Kidigo, Kiduruma, and Kikamba i.e. 22.2%, 18.5%, and 18.5% respectively. These three languages were the major dialects spoken by Kwale residents. Kidigo and Kiduruma were the languages which are native of Kwale, whereas Kikamba was exclusively used by the farmers who had settled in Kwale from up-country districts of Machakos, Makueni, and Kitui.

In Extension, language communication can easily be taken for granted—assuming that clients can easily and comfortably exchange verbal information with agents. This could be true in a homogeneous community where only one language and culture existed. Kwale, just like the whole country in general, has been settled by diverse people of different cultures and linguistic orientations, and thus the need for special attention to the language of use. In Extension however, it is felt that when communication is intended to change or influence a people tradition, then it needs to be particularly designed for effectiveness of such an exchange.

In Kwale district, language varied according to specific area and locations. However, it was realized that Extension agents did not always work in areas where they came from, areas where they will have the knowledge of the language(s) and the general
<table>
<thead>
<tr>
<th>Language Spoken by Agents</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kidigo</td>
<td>6</td>
<td>22.2</td>
</tr>
<tr>
<td>Kiduruma</td>
<td>5</td>
<td>18.5</td>
</tr>
<tr>
<td>Kikamba</td>
<td>5</td>
<td>18.5</td>
</tr>
<tr>
<td>Kizaraka</td>
<td>2</td>
<td>7.4</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>33.3</td>
</tr>
<tr>
<td>Totals</td>
<td>27</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 24: Languages spoken by Extension agents

culture and customs. In addition there was a large percentage (59.2%) of agents whose vernacular languages were not spoken in the district. This was because it was assumed that all farmers will be able to speak Kiswahili (*the lingua franca*), however, the researcher's observations revealed that there were a number of elderly farmers who could only communicate in their various vernacular languages. In this case, if the agent was not a native speaker of the farmer's dialect, then communication become a major problem. To an extent, there was no effective interactions between the agent and most of his/her clients.

**Ethnic Distribution**

Table 25 presents information about ethnic distribution of the participating Extension agents. Agents from the Digo ethnic group represented 25.9% of the agents. Those from the Kamba speaking comprised 18.5%, while 14.8% were from the Duruma
speaking group. One third of the Extension agents were from a variety of ethnic groups, mostly from up-country ethnic groups. Although most of the participating farmers were Digo and Kamba, less than half of the Extension agents (44.4%) were from these ethnic backgrounds.

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digo</td>
<td>7</td>
<td>25.9</td>
</tr>
<tr>
<td>Duruma</td>
<td>4</td>
<td>14.8</td>
</tr>
<tr>
<td>Kamba</td>
<td>5</td>
<td>18.5</td>
</tr>
<tr>
<td>Zaraka</td>
<td>2</td>
<td>7.4</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 25: Ethnic distribution of the Extension agents

Religious Affiliation

Table 26 summarize information on the religious affiliation of the participating Extension agents. The majority of the agents (70.4%) were Christians. Moslems represented 25.9%, and the remaining 3.7% participating agents reported being Traditionalists in their religious beliefs. Although the participating farmers were nearly half Moslems, only a quarter of the agents were from this religion.
Table 26: Religious affiliation of the Extension agents

<table>
<thead>
<tr>
<th>Religion</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christian</td>
<td>19</td>
<td>70.4</td>
</tr>
<tr>
<td>Muslim</td>
<td>7</td>
<td>25.9</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>3.7</td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Work Experience in Extension

Information about the work experience of the Extension agents is reported in Table 27. Most of the agents were fairly experienced individuals with 63% reporting that they had worked for the Ministry of Agriculture for more than ten years. The remaining ten (37.0%) participating agents reported having worked for a period of between seven and ten years.

Table 27: Years of experience for the Extension agents

<table>
<thead>
<tr>
<th>Years Worked in Extension</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-10 years</td>
<td>10</td>
<td>37.0</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>17</td>
<td>63.0</td>
</tr>
<tr>
<td>Total</td>
<td>27</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 27: Years of experience for the Extension agents
Objective 10: Ascertaining Agents’ Perception of Farmers Participation in Extension Activities by Gender, With Different Delivery Methods

Determining the perceived farmers participation by gender was the tenth objective of the study. Extension agents' responses to perceived participation of farmers by gender were rated on a five-point likert scale, from very low to very high. The total score of perceived participation for each gender in all Extension activities were computed. The total score for perceived attendance were computed and summarized on the following tables.

Agents’ Perceptions of Female Farmers Participation in Extension Activities

Table 28 presents information on agents’ perceptions of female farmers’ participation in Extension activities. Female farmers’ participation in field-days and farm demonstrations was reported to be high compared to other activities. Field-days and farm demonstrations were formal activities which were held on the farmer’s plots and were relatively well organized, thus the high attendance rate for the female farmers. Extension agents reported medium participation in barazas, village meetings, seminar/workshops, and shows attendance for the female farmers. With the exception of seminars and workshops, the participating Extension agents reported that these activities were usually informal and highly disorganized. Women farmers may not find these activities as productive since the agendas for these activities were not always agricultural. Topics which discussed party political campaigns tended to feature most during meetings.
Activities | Degree of Participation
---|---
| 1 | 2 | 3 | 4 | 5 | Total
Field Days | 0 | 5 | 7 | 9 | 6 | 27
Farm Demonstration | 1 | 2 | 8 | 11 | 5 | 27
Barazas | 1 | 3 | 10 | 8 | 5 | 27
Village Meetings | 1 | 3 | 12 | 8 | 3 | 27
Seminar and Workshops | 2 | 4 | 10 | 8 | 3 | 27
Office Consultations | 6 | 6 | 8 | 5 | 1 | 26
Shows | 3 | 6 | 7 | 8 | 1 | 27

Note: 1 = Very Low, 2 = Low, 3 = Medium, 4 = High, 5 = Very High

Table 28: Female farmers degree of participation in Extension activities

**Agents' Perceptions of Male Farmers Participation in Extension Activities**

Table 29 presents information on the Extension agents' perceptions of male farmer participation in Extension activities. For field-days male farmers' participation was reported as mostly being from low to medium. The same was reported for seminars (workshops), office consultations, and shows attendance. Male farmers seemed to attend more barazas and village meetings than any other activity. This could have been as a result of the topics discussed, and the fact that all these activities took place outside the farms.

Activities | Degree of Participation
---|---
| 1 | 2 | 3 | 4 | 5 | Total
Field Days | 0 | 9 | 9 | 7 | 2 | 27
Farm Demonstration | 0 | 6 | 9 | 10 | 2 | 27
Barazas | 1 | 5 | 6 | 9 | 6 | 27
Village Meetings | 0 | 4 | 13 | 7 | 3 | 27
Seminar and Workshops | 0 | 4 | 14 | 5 | 4 | 27
Office Consultations | 2 | 6 | 10 | 7 | 1 | 26
Shows | 1 | 11 | 11 | 3 | 1 | 27

Note: 1 = Very Low, 2 = Low, 3 = Medium, 4 = High, 5 = Very High

Table 29: Male farmers' degree of participation in Extension activities
Figure 5: Revised conceptual framework for identifying factors influencing accessibility of women's groups to agricultural Extension services in Kenya.
CHAPTER 5
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The overall purpose of this study was to examine factors influencing accessibility of women's groups to agricultural Extension services in Kenya. Another purpose was to investigate specific needs and interests of 348 farmers in 63 women's groups, and changes that can be made to improve agricultural Extension services to the women groups. The site was Kwale district, a place known both for women's collective organizing and as the setting of long-term Extension programs. But there was no information available on whether or how Extension policies and projects acknowledged or responded to women's agricultural and conservation groups. All data was collected in 1996-1997 in Kwale district Kenya. This research used a multi-stage, multi-method research approach that combined in-depth face to face interviews, participant observation, focus group interviews, document evaluation, and structured questionnaires.

Background of Kwale and the Women's Groups

The majority of women's groups in Kwale have had agricultural based functions related to natural resources as a means of sustainability. However, the district has had fluctuating rainfall patterns and marginal soils making it difficult for farmers to farm productively without effective Extension services. A number of studies on Extension services in Kenya had revealed that women, the majority of the farmers, were
neglected even after forming and maintaining effective groups in the rural areas. In 1985, the Kenyan Ministry of Agriculture, as a form of intervention, introduced the Training and Visit (T&V) system of Extension in the district in order to alleviate some of the farmers’ problems. The T&V system of Extension was intended to streamline the administration and implementation of agricultural programs in Kwale, and the country in general. This system was based on creating a better understanding of the farmers’ problems. The T&V system also assisted Extension agents and policy-makers in providing a conducive environment to meet the farmers’ needs by improving their participation in Extension education programs. However, a pilot study conducted by the researcher in 1994 revealed that there was inadequate and perhaps decreasing support for women’s groups from Extension department and other government ministries in the district.

The main issue in Kwale District was that women’s groups did not receive adequate Extension support due to insufficient knowledge of their changing needs and strategies used for their collective work. Women’s groups involvement in environmental conservation also did not receive meaningful support from Extension. Contrarily, Extension programs implementation policies at the local level tended to prioritize individual farming system against the reality of present farming styles in Kwale. As a result of this problem, many of the goals of the numerous women’s groups in the district were not realized, but replaced with welfare-type of activities which reinforced women’s roles as mothers and wives rather than farmers and environmental protectors.

If women’s economic, social and environmental conditions were be improved, Extension administrators and implementers need to understand women’s needs, their work
strategies, and the best way to reach them. Some Extension agents felt that steps taken by their department to adapt some of the programs to groups' needs could be successful in addressing the problems of the women's groups. But to date, no study has been conducted on the adaptations that have been made, or their appropriateness as regards the women's groups. In addition, there has been no research done on the needs or functioning of women's autonomous farming and conservation groups in Kwale.

Statement of the Problem

Throughout the history of Africa, women have been crucial contributors to agricultural production and are presently playing a very important role in environmental conservation. Increased emphasis on cash cropping and male migration out of the rural areas have further accentuated the centrality of women in food production for local consumption. Yet, over the years, women have not received the level of support from agricultural service agencies that is commensurate with their primacy in food production or rural communities (Afshar, 1991; Fry, 1994; Jiggins, 1989; Staudt, 1985). Also gaps between Extension services and women producers had been found to exist in Kenya and a number of other African countries (Buvinic & Mehra, 1990; Staudt, 1985; Spring, 1987).

Increasingly, women have come to rely on self-help groups to meet their needs. Such groups are similar to indigenous organizations that have operated in Africa even before the colonial era and have provided much needed support to their members in time of acute disasters such as famine, drought or disease. In spite of their importance to women, and potential contribution to national agricultural production and conservation, most groups have had only limited access to the services and resources provided by the
local development agencies (Mutiso, 1987; Mwagiru, 1985; Thomas, 1985). Studies of Extension programs have suggested that Extension agencies have been overwhelmingly oriented towards the individual farmer or to family farming systems (Mutiso, 1987; Staudt, 1990). Inattention to the problems and needs of collective groups is likely to exacerbate the marginalization of women in programs and policies.

There have been a number of studies of women groups in Kenya (Mutiso, 1987; Wamalwa, 1987; World Bank, 1989). Much of this research, however, has been descriptive in nature and focused mostly on the formation, activities, characteristics, and functions of these groups. Few have explicitly addressed the needs and interests of the groups in terms of their broader implications for national development policies. More remarkable has been the complete absence of research on the implementation of food production and soil and water conservation programs of the Extension department as they relate to women’s groups. A logical question was how sensitive are Extension policies related to food production and soil and water conservation to the needs and interests of different women’s groups? And how well do their approaches fit the demands of women’s collective work strategies? There was no information available on whether or how Extension policies and projects acknowledged or responded to women’s productive and conservation groups. It also remained to be seen whether the problems and needs identified with self-organized group farming and conservation were similar to or different from those of individual farmers or farming families (and whether Extension agents were aware of this).
**Purpose and Objectives of the Study**

The main purpose of this research was to investigate the accessibility of women’s groups, concerned with food production and soil and water conservation, to Extension programs. The study also investigated the needs and interests of different women’s groups, and how well Extension services have been able to design their approaches to fit the demands of the women’s work strategies. Within the context of increasing funding and activities towards reaching women’s groups in the rural areas, this study aimed at finding out if these efforts had translated into increased relevancy of Extension services to all groups. In essence, do women’s groups see agricultural Extension as a source of assistance or just as a source of oppressive government structures which create dependency and thus preventing them from achieving self-sufficiency in food and general development? The specific objectives of the study were to:

1. Describe women farmers on the following selected characteristics, (a) age, (b) ethnicity, (c) religion, (d) education, (e) language, (f) farm-size, (g) source of agricultural information, (h) original home, and (i) farm ownership and title.

2. Assess farmers’ perceptions of (a) rate of Extension agents’ visitation and their usefulness to the individual farmers, and (b) farmers’ rate of attendance at the agricultural Extension training programs and the usefulness of the training programs to the individual farmers.

3. Determine the functions of the women’s groups with regard to soil and water conservation and food production.
4. Examine immediate and long-term needs of the women farmers.

5. Ascertain problems faced by women farmers and their groups.

6. Assess Extension visitations and usefulness to the women’s groups.

7. Determine members’ benefits received from participating in women’s groups.


9. Describe Extension agents on the following selected demographic characteristics: (a) age, (b) gender, (c) education, (d) language, (e) ethnicity, (f) religion, and (g) work experience.

10. Ascertain agents’ perception of farmers’ participation in Extension activities by gender, with different delivery methods.

Methodology

The study utilized a multi-stage, multi-method design to collect information from women’s groups in Kwale district Kenya. The sample consisted of 348 farmers in 63 groups which were purposely selected from areas where farming and conservation groups existed. Twenty seven Extension agents and eleven administrators were also selected for the interviews.

The study used descriptive and correlational methods, and was conducted as a one-shot case study in 1996. Four interview guides which were designed specifically for the study were used as measurement instruments. Questions were designed to elicit information with regard to Extension accessibility, needs, problems, and demographic data from the target population. These instruments were validated cooperatively by panels of
experts and graduate students at both the Ohio State and Egerton Universities in the United States and Kenya respectively.

Descriptive statistical measures, measure of central tendency, and cross tabs were used for analyzing the quantitative data. Interpretive qualitative methods were employed in analyzing statements from the focus group sessions and the open-ended questions from the rest of the instruments. Tape recorded data was transcribed, summarized, and transferred into note cards. Information from the note cards was analyzed and presented thematically.

**Summary of Findings**

More than three quarters of the participants were between ages 21 and 50 years, distributed into mainly two ethnic groups (the Kambas and the Digos), and two religious affiliations, the Christians and the Moslems. About half of the farmers had never attended any formal schooling, and their educational levels were lower than that of the male farmers. The most reported farm sizes were between 3-5 hectares, and although female participants farmed on larger farms, only half had legal ownership of the plots. Most of the female farmers depended on Extension for their agricultural information. Kiswahili language was spoken by majority of the farmers interviewed, although a few of the them could only communicate in their vernacular dialects. This problem made it difficult for agents to operate in some villages. The figures presented above tended to support the fact that Extension training should emphasize supporting farmers with low levels of education, who spoke a variety of ethnic dialects, and owned small farms half of which do not have title-deeds. The distribution of religious affiliation revealed that the population had
farmers who were equally distributed among Christians and Moslems thus the need to
design programs that cater equally among the members of these two religions.

More Extension visits were made to male farmers than their female counterparts.
In general, Extension visitations and services were tilted towards men, Christians, and
those ethnic groups which did not originate from Kwale. Extension visitations
concentrated their teaching mostly on general crop production than on soil conservation.
Although soil conservation was the better funded component of Extension, its educational
impact on farmers was very minimal. The information from this objective supports that
services were not equally distributed among the Kwale people, and the fact that Extension
training priorities did not match with the farmers perceptions of what they learn about soil
conservation. Women's groups who were growing a mixture of cash and food crops
tended to receive more support from Extension agents than those farmers who only
produced food crops for own consumption. Regardless of the levels of Extension
visitations farmers received, the majority of them agreed that their only source of reliable
agricultural information was from the Extension department.

Although most of the groups had a mixture of functions, farming and soil
conservation were the main functions of majority of the women's groups. Poultry and
handicraft were some of the most important functions especially with regard to the long
term (cash-generating) projects of the groups. The more projects the groups had, the less
the commitment extended to farming and soil conservation. There was a tendency for the
very active women's groups to concentrate more on the quick-cash projects.
Participants' needs mentioned most were those concerning their immediate farming and conservation projects. Also, crucial problems were articulated concerning the problems female farmers had encountered in trying to secure farm credit and loans to improve their agricultural projects. Previous poor harvests resulted in lack of cash to purchase farm inputs and necessary tools and equipment for farming. Illiteracy, lack of collateral, and slow issuance of farm title deeds caused the persistent lack of credit to most of the participants. Fertilizers, seeds, manure, tree seedlings, and farming tools were listed as the most important needs. These problem tended to affect more female farmers than their male counterparts.

The most important problem cited concerned the state of the roads of the rural areas in the district. Poor roads led to the following: (a) problems in obtaining farm inputs, (b) inadequate Extension visits by agents, (c) no farm credit, since credit agents were also hindered by the impassable roads, (d) no incentives for the farmers to increase their acreage/yields due to anticipated marketing problems, and (e) isolation of the farmers from the rest of the country. For this reason, the geographic location of the farm and availability of passable roads was a major factor in accessing Extension services for most of the farmers. Therefore, the importance of agricultural production, and the growing population of these areas call for major rethinking of the issue of roads by the government.

The majority of the groups received Extension visits during the previous farming season. However, Extension agents preferred those groups which: had larger farms, located near the main roads, grew a mixture of cash and food crops, and those which had more educated members. Groups which did not have these characteristics tended to
receive less Extension visits and services. Although group Extension improved the accessibility of these services to the female farmers, this emphasis of "better" groups also created bias against the very poor farmers whose groups were located in the remote areas and who had less educated members growing only food crops mostly for their own survival rather than selling the produce.

All the female farmers unanimously agreed that they benefited from their groups. Among the direct benefits listed by the participants included: Extension training, cash profit from their farm harvests, financial assistance, food, and learning from others. Knowledge and skills learned by participants during group's training usually was transferred to their individual farms. It was observed that some groups had benefited more from Extension training than others. Additionally Moslem female farmers found it more convenient and satisfying to work in groups since the group atmosphere allowed for free interaction with the (mostly) male Extension agents.

There was a tendency on the part of the Extension agent to offer more services to the Christian farmers than their Moslem counterparts regardless of gender. Kamba speaking farmers also received more Extension visits than their Digo and Duruma counterparts. Most of the agents were non-Moslems and non-natives of Kwale. For this reason, they probably found it more "culturally" convenient to work with those farmers who came from outside the district like the agents themselves. Additionally, the analysis concluded that there were long term stereotypical problems concerning (a) Extension agents/farmer compatibility; (b) agents' perceptions of the local people; and (c) composition of the district administration teams versus the majority of the Kwale people.
The majority of the Extension agents in the district were male, young to middle ages, and relatively educated. Although most had come from outside the district, only a few experienced language problems in reaching their farmers. The majority of the agents were well trained and very experienced in their work. However, agents were allocated with very large areas to serve and no transportation arrangements for the many farm families they had to visit and train.

Extension agents perceived female farmers participation to be higher than that of their male counterparts. Field days and demonstration were also attended more by female farmers than males. Most of the functions however were reported to be highly informal and, to some extent, disorganized. There were fewer women attendants at the barazas because most of the topics discussed were of little relevance to agricultural.

Conclusions

On the basis of this study, the researcher made several conclusions that were related to the objectives and the findings of the study. These conclusions were generalizable to women farmers and the groups included in the study.

The most important characteristics that determined accessibility of Extension services included (a) religious affiliation, (b) ethnicity, (c) original home of group members, (d) geographical location of groups, (e) type of crops grown, and (f) educational level of members. Extension agents preferred the well-established groups that were located near the main roads and who grew mixed crops. Mixed groups and the women's groups did not show any differences in accessing Extension services, although groups that had more elderly and illiterate members received less Extension services.

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This study revealed that T&V Extension method had not eradicated the problem of accessibility of Extension services to the women’s groups. In fact, due to T&V’s idea of selecting contact farmers or contact groups, this system may have been the cause of some groups being isolated from Extension programs. The women’s groups involved in this study demonstrated the crucial role they played in maintaining food security and environmental balance. It is for this reason that Extension administrators should formulate and adapt clear Extension and educational approaches that will incorporate these groups into all the Extension programs. It is logical for the Extension department to adapt to the local and regional realities during these times when Kwale is faced with famine and environmental destruction. Assessing farmers’ needs and problems should continue to be a step towards accomplishing this task.

The main problem cited was the lack of or complete absence of good roads which led to other problems such as (a) obtaining farm inputs, (b) Extension accessibility, (c) acquisition of loans, and (d) general incentives for their agricultural work. These problems were impeding agricultural improvements and development in the area. By utilizing various data collection methods, the study also recorded the most important needs of the women’s groups in the district. Farmers in Kwale cited farming tools and equipment, inputs, and Extension services as their most important needs for their farming and conservation work.

Most groups were ready to purchase these items if they were available in their areas. However, the results of the study clearly implied that the greatest need was Extension training and some motivation from the agents. The Extension department’s role
is not to provide tools and equipment. Rather, agents are to help in training the groups on how to organize and collaborate in order to collectively order and purchase needed items.

Due to increased problems related to their common needs in agriculture and soil conservation, women's groups will continue to be the main participatory trends of female farmers in Kwale and elsewhere in Kenya. Women's organizations will grow in strength thus becoming more willing to voice their needs to Extension workers. However, Extension administrators will need to adjust their approaches and become more aware of the important role played by the women's groups in Kwale.

**Recommendations**

The recommendations are based upon the findings and the conclusions presented above. This list will incorporate recommendations for practice, policy, research, and theory.

**Practice**

This study recommends that there should be more efforts aimed at helping women farmers improve their agricultural enterprises. Among these efforts are the following: (a) good soil conservation, (b) proper agronomic practices, (c) controlling pests and diseases, (d) acquiring agricultural loans, and (e) assistance in marketing their produce.

Extension approaches do not provide an easy response to the new pressures facing women's groups particularly in this era of Structural Adjustment Programs (SAPs). Extension administrators and researchers often underestimate the potential value of goods produced and community services provided by the women farmers. The reason for this underestimation is that these goods and services are often consumed at home or at the
community level. It was noticeable that SAPs and Kenya's commitment to market-based agricultural development have considerably reduced the direct role of the state in providing services such as Extension training to rural farmers. Despite the constraints and lack of confidence among farmers, Extension programs do make an impact, and should continue with the following emphasis:

1. The Extension department should make arrangements to link farmers with other programs that provide subsidized or loaned equipment/tools and inputs for farming and soil conservation. The introduction of subsidized equipment would enable members to use these tools for both their farms as well as groups' projects. Profits from the produce sales should be used in re-paying for such tools.

2. Extension agents should help in training and coordinate group and individual efforts to obtain equipment; tools; and small, short term, loans from banks, farmers' cooperatives or marketing boards. Although not all group borrowing schemes have been successful, Kwale's groups offer an encouraging characteristics in that (a) most of the groups had self-selecting membership, and (b) many groups had diverse money-generating projects, such as basket making, oil pressing, and poultry farming. Self-selecting membership should help create responsibility and peer-pressure in loan repayment.

3. The Extension department should link financial institutions and other market intermediaries (e.g., cooperatives and crop marketing boards) to groups--which in effect should supervise groups activities relating to marketing of their farm produce. These financial institutions used for loans should be linked to the women's groups in
order for the institutions to be able to provide the women's groups with sufficient market presence for the farmers' produce.

4. Extension agents should encourage clear member-driven agendas and objectives that are central to successful groups. Regular Extension training to the members is important not only for the technical agricultural/environmental subject matter, but should also motivate group's internal cohesion.

5. Training for the groups should be practical, relevant to their needs, and more importantly, regular, consistent and organized. The study revealed that many women's groups met in the afternoon on regular weekly schedules. This means that Extension agents should specifically target a certain group at a certain time on a regular weekly basis for training purposes.

6. Training for the women's groups should involve literacy, leadership, organizational skills, business skills as well as technical training to improve the quality of farmers' output. However, the training should also encourage groups to achieve their objectives.

7. Extension should emphasize those productive activities identified by the women farmers themselves. For agricultural technical information to the groups, farmers identified regular farm demonstrations, field days and Extension visits as the most effective methods for training.

8. In-service re-training of Extension agents should be provided on a regular basis. Agents who are in-charge of women's groups should be given extensive training on technical, social, and marketing skills. For agricultural Extension agents, training on
marketing issues should be provided since this is a major emphasis in promoting women's groups. Marketing issues have tended to be outside the agents area of responsibility.

9. Extension agents should avoid undermining the process of successful group development by: (a) not requiring/encouraging groups to undertake too many or complex projects; (b) not setting numerical membership targets or number of groups formed in their areas; (c) avoiding visiting one group more than the other (services and visitations should be equally distributed among the groups whether groups are located near the main highway or situated in the remote areas); and (d) giving subsidies and credits only to groups which have stabilized and shown some positive progress towards achieving their objectives. Subsequently, agents should encourage and motivate those groups, which have been left out, because of their social/cultural affiliations, geographical location or illiteracy to re-organize and get more involved in groups' projects. More importantly, the Extension department should improve its performance and strive to meet the needs of all its clientele regardless of gender, language, or ethnic origins. A systematic evaluation of its programs should be an important beginning towards achieving this goal.

10. Extension administration should begin to establish a management information system which would be used for all the future program implementation plans. This information system should provide specific information about the ethnic and linguistic landscape of the villages, divisions, and the district. Duty stations should be allocated to Extension agents who have working knowledge of the languages used in that area.
11. The district Extension agents administrators' composition should reflect staff or agents who are either from the district or are familiar with the existing farmers in the district. The agents should have a common language and possibly some shared culture with their farmers. It is essential to have sufficient communication if cultural practices are to be exchanged for improved ones.

12. Needs assessments should be conducted throughout the district by involving all farmers from different areas, religion and ethnic affiliations. Extension agents should perform these exercises while understanding the demographic and cultural differences of the district. Involvement of female farmers and their groups should always be a high priority.

13. Efforts should be made by the Extension administrators to inform farmers of all races, ethnicity and religion about the department's programs, and opportunities in the district. Some of the rural farmers interviewed tended to be unaware of the many Extension programs undertaken in the district.

14. The diversity of Kwale's people and the languages they speak should be considered as important issues in all the phases of the program planning, implementation, and evaluation of the Extension project(s) or programs.

15. In-service training of Extension agents and their administrators should be designed to sensitize them to the cultural and linguistic dimensions of the tasks. This exercise should be designed to help the agents develop a better understanding of the Kwale people.
16. An expert should be engaged who will guide the Extension cultural/communication coordination. This expert should have good education, sociological, linguistic, and communication backgrounds in order to constantly evaluate language and communication issues relevant to the Extension work.

17. Women’s group leaders should be trained regularly. Additionally, the leaders and some selected members of the groups should be involved in planning, implementing and evaluating of all the Extension programs that affects them directly.

Research

19. Field researchers for agricultural projects should involve women’s groups in collecting and analyzing information on social and economic conditions, constraints and needs affecting the groups and local farmers in general. Through such participatory studies, researchers should be able to learn more about problems and issues affecting women farmers in the rural areas.

20. Future research should aim at assessing the potential of the women’s groups in order to formulate appropriate plans, determine proper training, and evaluate programs for the both the farmers and the Extension agents.

21. Field surveys should be conducted more frequently to determine and establish economic and social benchmarks for programs. Impact evaluation programs should also be interwoven in these surveys and researches.

22. Studies should be conducted in Kwale to assess the important contributions groups make to the district development. Researchers should also determine the best ways of linking the groups (where possible) with the private sector and local businesses.
Policy

23. There should be a formulation of programs as well as legal reforms where rural people will be enabled to have their lands demarcated and title-deeds issued. Crucial in this respect is the enhancement of women’s access to land and other productive resources including loans, farm credit, farm inputs, and clean water.

24. State-run banks such as the Agricultural Finance Corporation and Kenya Commercial Bank should be made to play a more visible role in supporting rural development in Kwale.

25. The Extension department should collaborate with other ministries, departments and the private sector in promoting and enhancing the non-agricultural activities (e.g., basket making, oil press, fishing) undertaken by the farmers individually or in groups. These activities should provide secure and gainful employment to the poor rural people through increasing their earning power. However, care should be taken not to discourage such groups from reducing their roles in agricultural production and environmental conservation.

26. The government should open-up remote areas by improving public infrastructure facilities particularly roads and a reliable market systems. The government should support the development of the infrastructure because the cost of such an investment is far beyond the capabilities of the rural people.

27. The larger question of ethnicity and religious discrimination should be addressed by the existing constitutional laws of Kenya. Tribalism should not be tolerated and government officials should play a more active role in eliminating it from Extension
programs, schools, health services, infrastructure development and all the basic services provided directly by the State.
APPENDIXES
APPENDIX A

Instrument used for collecting information from the individual farmers
FACTORS INFLUENCING ACCESSIBILITY OF WOMEN'S GROUPS TO AGRICULTURAL EXTENSION SERVICES IN KENYA

Instrument #1

For individual members of the groups

Introduction
My name is Abdillahi S. Alawy. I am a student at the Ohio State University in the United States. I worked with the Ministry of Agriculture (M.O.A) in Lamu between 1985-89. Presently, I'm conducting a study concerning women’s groups and their efforts in farming and environmental conservation in your district. I am also concerned with studying extension’s accessibility to these groups. We will use this information to strengthen extension education programs especially those aimed at improving women’s groups and the environment.

Your responses will be useful in assessing how extension programs can be used to advance women farmers’ organizations in terms of policy development, priority setting, program implementation, training, and education.

We want you to understand that your participation is voluntary. All the information you provide in this study will be kept confidential and will be used for the purpose of this research only.

I. Demographic & Background Information

1. Respondent Code Number or Name: ____________________________________

2. Sub-location/Location and Division: ____________________________

3. What is your sex?
   (1) Female
   (2) Male:

4. What is your age?
   (1) 15-20 years
   (2) 21-30 years
   (3) 31-40 years
   (4) 41-50 years
   (5) 51 and above
5. What is your marital status?

(1) Never Married
(2) Divorced
(3) Separated
(4) Widowed
(5) Married

6. What is your ethnic background?

(1) Digo
(2) Duruma
(3) Kamba
(4) Zaraka
(5) Other, specify ____________________________

7. What is your original home-district?

(1) Kwale District
(2) Other (specify) ____________________________

8. What is your native language?

(1) Kidigo
(2) Kiduruma
(3) Kikamba
(4) Kizaraka
(5) Other, specify ____________________________

9. What is your religious affiliation?

(1) Christian
(2) Muslim
(3) Traditional
(4) Other, specify ____________________________

10. How many years have you lived on the farm?
(1) Less than a year
(2) 1-2 years
(3) 3-5 years
(4) 6 years and above
11. What is the size of your land?

(1) Less than 1 hectare
(2) 1-2 Hectares
(3) 3-5 Hectares
(4) 6-10 Hectares
(5) More than 10 Hectares

12. Who owns this land?

(1) Self
(2) Husband
(3) Wife
(4) Government lands
(5) Private Company
(6) Me and my spouse (together)
(7) Other, specify

13. If self-owned do you have a tittle-deed for the land?:

(1) Yes
(2) No

14. How many years did you attend primary school?

(1) Never attended
(2) 1-2 years
(3) 3-6 years
(4) 7-8 years

15. How many years did you attend Madrasa (Islamic School) school?

(1) Never attended
(2) 1-2 years
(3) 3-6 years
(4) 7-8 years

16. Can you read?
(1) English script
(2) Quranic Script
(3) Other, specify

________________________________________
17. Can you write?

(1) English script
(2) Quranic Script
(3) Other, specify ________________________________

18. Do you have any educational experiences beyond primary education?

(1) No
(2) Yes
If yes, specify ________________________________

II. Housing, Water, and Sanitation

19. What is the size of the house you live in?

(1) 1 room
(2) 2 rooms
(3) 3 rooms
(4) 4 rooms or more

20. Who owns the house you live in?

(1) Self
(2) Husband
(3) Landlord
(4) Me and my spouse (together)
(5) Relative, specify ________________________________

21. How many adults live in the house?

(1) 1
(2) 2
(3) 3
(4) 4 or more
22. How many children live in the house?

(1) 1
(2) 2
(3) 3
(4) 4 or more

23. What roofing materials were used on the main building?

(1) Makuti
(2) Iron sheets
(3) Grass
(4) Other, specify

24. What materials were used for building the walls of the main house?

(1) Mud
(2) Stone
(3) Cement bricks
(4) Stone bricks
(5) Other, specify ____________________________

25. Where do you obtain drinking water from?

(1) Public tap/reservoir
(2) River
(3) Lake
(4) Community tank
(5) Other, specify ____________________________

26. How far is the water-source from the house?

(1) Less than a kilometer
(2) 1-2 kilometer
(3) 3 or more kilometers

27. Is water available throughout the year?

(1) Yes
(2) No
28. How is the quality of the water?
   (1) Excellent
   (2) Good
   (3) Fair
   (4) Bad

29. Is the water obtained for free or sold?
   (1) Free
   (2) For sale

III. Acquisition of Agricultural Inputs and Farm-Credit

30. Where do you obtain your planting seeds/seedlings from?
   (1) Past crop
   (2) Agriculture Department
   (3) K.G.G.C.U. shops
   (4) Other, specify _________________________________

31. Do you use farm-manure?
   (1) Yes
   (2) No

32. Do you use fertilizers?
   (1) Yes
   (2) No

33. Do you use pesticides?
   (1) Yes
   (2) No

34. Did you borrow money for agricultural purpose last farming season?
   (1) Yes
   (2) No

   If yes...
35. What was the source of the loan?

(1) AFC
(2) Your farmer's group
(3) Local businessmen
(4) Other, specify ________________________________

36. How much money did you borrow?

Amount in Kshs: ________________________________

37. Does your group assist in obtaining loans/farm credit?

(1) Yes
(2) No

38. Does extension department assist you in obtaining loans/farm-credit?

(1) Yes
(2) No

IV. Farming Activities.

39. What kind of farm equipment do you own?

<table>
<thead>
<tr>
<th>Farm Equipment(s)</th>
<th>Number Owned</th>
<th>Estimated Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Animal Drawn Carts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Ax(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Bucket(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Folk Jembe(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Jembe(s) long handles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Jembe(s) short handles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Plow (Plough) animal drawn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Plow (Plough) motorized</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Panga(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Sickle(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Shovel(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Slasher(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Wheel-barrow(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
40. What kind of food crops do you produce?

<table>
<thead>
<tr>
<th>Food Crops</th>
<th>Use(s)</th>
<th>1995 Season’s Acreage</th>
<th>1995 Season’s Yields</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Local Maize</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Improved Maize</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Sorghum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Rice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Millets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Beans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Green Grams</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Cow Peas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Pigeon Peas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Cassava</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Sweet Potatoes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Arrow Roots</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Tomatoes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Tunguja</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Kale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Cabbage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Okra</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Onions</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

41. What kind of cash crops do you produce?

<table>
<thead>
<tr>
<th>Cash Crops</th>
<th>Use(s)</th>
<th>1995 Season’s Acreage</th>
<th>1995 Season’s Yields</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Citrus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Coffee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Bananas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Papaw</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Mangoes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Bixa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Cashewnuts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Coconuts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
42. What kind of livestock do you keep?

<table>
<thead>
<tr>
<th>Livestock Type</th>
<th>Size of Herd</th>
<th>Use(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cattle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Goat(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Sheep</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Pig(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Rabbit(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Chicken</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Duck(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IV. Soil and Water Conservation

43. For the last one year, have you been involved in soil and water conservation?

(1) Yes
(2) No

If yes...

44. Were you involved as a group member or individually?

(1) Group
(2) Individual

If group...

45. What is the name of the group?

Name: __________________________________________

46. Did you receive any kind of assistance from the following

Extension Department:

(1) Yes
(2) No

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If yes, specify what kind of assistance __________________________

Your Women’s group:

(1) Yes
(2) No

If yes, specify what kind of assistance __________________________

Local NGOs:

(1) Yes
(2) No

If yes, specify what kind of assistance __________________________

(4) Other:

(1) Yes
(2) No

If yes, specify what kind of assistance __________________________

VI. Extension Accessibility

47. What is your major source of agricultural information?

(1) Extension Department
(2) NGO.
(3) Church Based Extension
(4) AFC.
(5) Other, specify __________________________

48. How often do you contact these sources?

(1) Weekly
(2) Monthly
(3) Yearly
(4) Other, specify __________________________
49. How often do you get contacted by these sources?
(1) Weekly
(2) Monthly
(3) Yearly
(4) Other, specify ________________________________

50. Other secondary sources?

51. What is your major source of conservation information?
(1) Extension Department
(2) NGO
(3) Church Based Extension
(4) AFC
(5) Other, specify ________________________________

52. How often do you contact these sources?
(1) Weekly
(2) Monthly
(3) Yearly
(4) Other, specify ________________________________

53. How often do you get contacted by these sources?
(1) Weekly
(2) Monthly
(3) Yearly
(4) Other, specify ________________________________

54. Other secondary sources: ________________________________

55. How often are you visited by an extension agent?
(1) Weekly
(2) Monthly
(3) Yearly
(4) Other, specify ________________________________

56. Where did this meeting take place?
57. When do you expect the agent again?

(i) For advice on agriculture

(1) Next week
(2) Next month
(3) Next Year
(4) Other time, specify ________________________________

(ii) For advice on conservation

(1) Next week
(2) Next month
(3) Next Year
(4) Other time, specify ________________________________

58. Do you find the recommendations applicable?

(1) Yes
(2) No

59. What do you find as the most useful information on?

Agriculture/Food production? ________________________________
Environmental Conservation? ________________________________

60. What do you find as the least useful information on?

Agriculture/Food production: ________________________________
Environmental Conservation: ________________________________

61. Do you and other group members discuss the advice received from Extension?

(1) Yes
(2) No
62. Does Extension hold the following in your area(s)?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency/year</th>
<th>Usefulness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Field Days/Demonstrations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Barazas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Agricultural Shows</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Others</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

63. Have you or other adult members of your household attended a field day/demonstrations in the past-year?

(1) Yes
(2) No,

If so...

64. Do you find the field days/demonstrations to be useful?

(1) Yes
(2) No

65. What do you find most useful?

66. What would you like to see more during these occasions?

67. Would you like to have more field days?

(1) Yes
(2) No

68. What type of communication techniques were used?

(1) Verbal
(2) Demonstration
(3) Films
(4) Videos
(5) Printed Materials
69. What communication technique do you find most useful?

(1) Verbal
(2) Demonstration
(3) Films
(4) Videos
(5) Printed Materials
(6) Others

70. What is your suggestion in improving these field days/demonstrations?

_____________________________________________________________________________

71. Have you or other adult member of your household attended a Barazas in the past year

(1) Yes
(2) No

If yes...

72. Do you find Barazas useful?

(1) Yes
(2) No

73. What do you find most useful?

_____________________________________________________________________________

74. What would you like to see more during these occasions?

_____________________________________________________________________________

75. Would you like to have more Barazas?

(1) Yes
(2) No
76. What is your suggestion in improving these Barazas?

________________________________________________________________________

77. Have you or other adult member of your household attended a show or fair in the past year?

(1) Yes  
(2) No

If so ...

78. Do you find shows useful?

(1) Yes  
(2) No

79. What do you find most useful?

________________________________________________________________________

80. What would you like to see more during these occasions?

________________________________________________________________________

81. Would you like to have more shows?

(1) Yes  
(2) No

82. What is your suggestion in improving these Shows?

83. What benefits do you get from your group?

84. How best can you be assisted in your farming and conservation activities?
APPENDIX B

Instrument used for collecting information from the Extension agents
FACTORS INFLUENCING ACCESSIBILITY OF WOMEN’S GROUPS TO AGRICULTURAL EXTENSION SERVICES IN KENYA

Instrument #2

For field Extension agents

Introduction

My name is Abdillahi S. Alawy. I am a student at the Ohio State University in the United States. I worked with the Ministry of Agriculture (M.O.A) in Lamu between 1985-89. Presently, I’m conducting a study concerning women’s groups and their efforts in farming and environmental conservation in your district. I am also concerned with studying extension’s accessibility to these groups. We will use this information to strengthen extension education programs especially those aimed at improving women’s groups and the environment.

Your responses will be useful in assessing how extension programs can be used to advance women farmers’ organizations in terms of policy development, priority setting, program implementation, training, and education.

We want you to understand that your participation is voluntary. All the information you provide in this study will be kept confidential and will be used for the purpose of this research only.

I. Demographic & Background Information

1. Respondent Code Number: _____________________________________________

2. Sub-location/Location and Division: ____________________________________

3. What is your sex?

   (1) Female
   (2) Male

4. What is your age?

   (1) 15-20 years
   (2) 21-30 years
   (3) 31-40 years
   (4) 41-50 years
   (5) 51 and above
5. What is your marital status?
   (1) Never Married
   (2) Divorced
   (3) Separated
   (4) Widowed
   (5) Married

6. What is your ethnic background?
   (1) Digo
   (2) Duruma
   (3) Kamba
   (4) Kikuyu
   (5) Other, specify ________________________________

7. What is your original home-district?
   (1) Kwale District
   (2) Other (specify) ________________________________

8. What is your native language?
   (1) Kidigo
   (2) Kiduruma
   (3) Kikamba
   (4) Kikuyu
   (5) Other, specify ________________________________

9. What is your religious affiliation?
   (1) Christians
   (2) Muslim
   (3) Traditional
   (4) Other, specify ________________________________

10. Did you grow up in the rural area or in an urban setting?
    (1) Rural
    (2) Urban
11. What level of education have you attained?
   (1) Primary School,
   (2) Secondary School
   (3) College Certificate
   (4) College Diploma
   (5) University
   (6) Other, specify ________________________________

12. How did you acquire your present knowledge in agriculture?
   (1) Formal training
   (2) F.T.C
   (3) Farm experience
   (4) Other, specify ________________________________

13. How many years have you been working as an extension agent?
   (1) Less than 1 year
   (2) 1-3 years
   (3) 4-6 years
   (4) 7-10 years
   (5) More than 10 years

14. How many years have you been working at your present station?
   (1) Less than 1 year
   (2) 1-3 years
   (3) 4-6 years
   (4) 7-10 years
   (5) More than 10 years

15. How many other stations have you worked before?
   (1) Only this one
   (2) 2-4
   (3) 5 or more.

16. What proportion of your farmers are you able to contact regularly?
   (1) 1-10%
   (2) 11-20%
   (3) 21-30%
   (4) 31-50%
   (5) more than 50%.

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17. What proportion of your women farmers are you able to contact regularly?

(1) 1-10%
(2) 11-20%
(3) 21-30%
(4) 31-50%
(5) More than 50%.

18. What proportion of your women’s groups are you able to contact regularly?

(1) 1-10%
(2) 11-20%
(3) 21-30%
(4) 31-50%
(5) More than 50%.

19. How far do you live from your work zone?

(1) Live in the zone
(2) 1-5 kilometers
(3) 6-10 kilometers
(4) More than 10 kilometers.

20. What means of transport do you use?

(1) Walking
(2) Bicycle
(3) G.K. motorbike
(4) G.K. vehicle
(5) Other, specify ___________________________________________________

II. Training and Extension Activities

21. How often do you attend training sessions conducted by district Subject Matter Specialists (SMSs)?

(1) never attends
(2) Fortnightly
(3) Monthly
(4) yearly
(5) Other, specify ___________________________________________________
22. Is this frequency of training adequate?

(1) Yes,
(2) No

23. On the average how many hours does a session last?

(1) 1/2-1 hour
(2) 2-3 hours
(3) More than 3 hours

24. Evaluate your own previous training on the following:

<table>
<thead>
<tr>
<th>Key:</th>
<th>(1) Excellent</th>
<th>(2) Good</th>
<th>(3) Fair</th>
<th>(4) Poor</th>
<th>(5) Very poor</th>
</tr>
</thead>
</table>

a) working with individual contact farmers

b) Working with farmers' (mixed) groups

c) Working with women's groups

d) Working with male farmers

e) Working with female farmers

f) Working with men's groups

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25. The following soil conservation measures were taught to the women's groups concerned with soil conservation:

(1) Tree planting
(2) Nursery management
(3) Ground cover management
(4) Conservation tillage
(5) Bench terracing
(6) Water harvesting small catchment
(7) Supplemental irrigation
(8) Other, specify ____________________________
(9) None of the above

26. How do you perceive farmers participation in extension education activities (please circle your responses)

<table>
<thead>
<tr>
<th>Key</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Medium</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
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<tr>
<td>High</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Very High</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Male Farmers</th>
<th>Activities</th>
<th>Female Farmer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>Field Days</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Farm Demonstration</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Barazas</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Village meetings</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Seminars/Workshops</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Office Consultation</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Shows</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Others(specify)</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
27. What is your perception of farmers' participation in extension activities that dealt with the following:

<table>
<thead>
<tr>
<th>Key</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Very High</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Male Farmers</th>
<th>Activities</th>
<th>Female Farmer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  2  3  4  5</td>
<td>Improved Seed Prep.</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Fertilizer Application</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Pesticides/herbicides applic.</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Tillage/planting methods</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Post-harvest &amp; Storage</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Use of Farm tools</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Mulch Farming</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Tree planting</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Crop rotation</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Marketing of Farm produce</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Terrace making</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Water conservation</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Water preservation</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Vegetable nursery mgmt.</td>
<td>1  2  3  4  5</td>
</tr>
<tr>
<td>1  2  3  4  5</td>
<td>Tree nursery management</td>
<td>1  2  3  4  5</td>
</tr>
</tbody>
</table>
28. Please respond to the following: a) what is your view on the adequacy of your training on the following selected skills; and b) how relevant is that skill to your work:

<table>
<thead>
<tr>
<th>Key</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Very low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Very High</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relevance</th>
<th>Skills</th>
<th>Adequacy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I.d. women farmers special needs</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Effective comm. with different gender</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Training groups leaders</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Working with farmers in groups</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Soil Conservation methods</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Water Conservation methods</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td>Others(specify)</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
III. Division of Farm labor

29. For food crops in general, who do you think performs most of the work at the farm? (Please tick appropriate column)

<table>
<thead>
<tr>
<th>Farm Operation</th>
<th>Female Farmers</th>
<th>Male Farmers</th>
<th>Children</th>
<th>Both Male &amp; Female Farmers Equally</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Land preparation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Nursery preparation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Planting/transplanting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Weeding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Thinning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Vermin’s control</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Harvesting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Processing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Other (specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

30. How can your ministry (MOA) best assist women farmers in your area?

31. How can your ministry (MOA) assist you in (better) serving women farmers in your area?
32. Please use the space below to write down any additional comments with regard to the issues raised in this survey.
APPENDIX C

Interview guide used to guide moderator for the focus group meetings
FACTORS INFLUENCING ACCESSIBILITY OF WOMEN'S GROUPS TO AGRICULTURAL EXTENSION SERVICES IN KENYA

Focus Group Interview Guide (instrument #3)

The discussion centered on needs and problems faced by the women's groups. Most of the information below was collected during the discussion. The sessions started with introductions of the moderators to the group's members and the objectives of the meeting. The issues and problems of farming were then introduced by participants themselves, with probing questions from the moderator. Each issue or problem was discussed one by one to a sufficient depth determined by the researcher. At the end of each meeting, the moderator made sure that the following information was recorded.

Sub/Location/division: ___________________________ Date & Time: ______________

I. Functions and Membership

1. What is the name, and objective(s) of your group?

2. When was the group started?

3. How did the group Start?

4. What are your projects?

5. What is your most important group project?

6. What is the name of the group Chairperson?
7. When and what time does your group normally meet?

8. What is your membership? (number of active and inactive members respectively)

9. The following were soil conservation preventive measures undertaken by our group in the last one year:

<table>
<thead>
<tr>
<th>Preventive Measure Undertaken</th>
<th>Number of members involved regularly</th>
<th>Assistance from outside (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mulch Farming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Cover crop and planted fallow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Conservation Tillage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Vegetative hedges and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Agro-forestry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Alley cropping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Strip Cropping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Contour Farming</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Ground cover management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Terracing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. The following soil conservation control measures were undertaken by our group in the last one year:

<table>
<thead>
<tr>
<th>Control Measure Undertaken</th>
<th>Number of Members Involved regularly</th>
<th>Outside Assistance (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Waterways</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Wind Breaks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Ridge tillage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Tree Planting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Contour Bands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Diversion Channels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Gabiens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Check-dams</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
11. What farming activities does your group undertake and what problems do you face in this?

II. Extension Visitations

12. For the last one year (estimate) how many times was your group visited by an extension agent?

13. Were the meetings useful to your (general) group objectives?

14. Were the extension agents able to understand your needs and help you?

III. Needs and Solutions

15. Would you list your (1) immediate, and (2) long term needs for both your conservation and farming activities?

<table>
<thead>
<tr>
<th>IMMEDIATE GROUP NEEDS</th>
<th>LONG-TERM GROUP NEEDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
</tr>
<tr>
<td>4.</td>
<td>4.</td>
</tr>
</tbody>
</table>

16. How can government promote women's groups activities in your area/how can government services be improved?

17. Apart from agricultural extension, have you been able to receive outside assistance in the past one year?
18. Do you consider extension visitations as important to your group or a waste of time?

19. What benefits do members get from this group?

20. Moderator's comments about the group:
APPENDIX D

Instrument used for collecting information from Extension administrators in the district
FACTORS INFLUENCING ACCESSIBILITY OF WOMEN'S GROUPS TO AGRICULTURAL EXTENSION SERVICES IN KENYA

Instrument #4

Station: ______________________
Date of interview: ____________
Time of interview: ____________
Attendance: ________________

Introduction

My name is Abdillahi S. Alawy. I am a student at the Ohio State University in the United States. I worked with the Ministry of Agriculture (M.O.A) in Lamu between 1985-89. Presently, I'm conducting a study sponsored by The Rockefeller Foundation, The Ohio State University and Egerton University. We are collecting information regarding women’s groups strategies in food production and environmental conservation. We are also concerned with studying extension’s accessibility to these groups. We will use this information to strengthen extension education programs especially those aimed at improving women’s groups and the environment.

The discussion questions will be useful in assessing how your ministry/office can advance women farmers organization in terms of policy development, priority setting program implementation, oversight and evaluation, training and education, and recruitment and dispersal.

We want you to share with us your ministry’s progress as they relate to the issues raised in this group interview. Participation is voluntary, and all the information you provide in this study will be kept confidential and will be used for the purpose of this research only.

I. Demographic & Background Information

1. Respondent Code Number: _____________________________________________

2. Sub-location/Location and Division: ____________________________

3. What is your sex?
   (1) Female
   (2) Male

4. What is your age?

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5. What is your marital status?
   (1) Never Married
   (2) Divorced
   (3) Separated
   (4) Widowed
   (5) Married

6. What is your ethnic background?
   (1) Digo
   (2) Duruma
   (3) Kamba
   (4) Kikuyu
   (5) Other, specify ____________________________

7. What is your original home-district?
   (1) Kwale District
   (2) Other (specify) ____________________________

8. What is your native language?
   (1) Kidigo
   (2) Kiduruma
   (3) Kikamba
   (4) Kikuyu
   (5) Other, specify ____________________________

9. What is your religious affiliation?
   (1) Christians
   (2) Muslim
   (3) Traditional
   (4) Other, specify ____________________________

10. Did you grow up in the rural area or in an urban setting?
    (1) Rural

11. What level of education have you attained?

(1) Primary School,
(2) Secondary School
(3) College Certificate
(4) College Diploma
(5) University
(6) Other, specify ____________________________

12. How did you acquire your present knowledge in agriculture?

(1) Formal training (college university etc)
(2) F.T.C
(3) Farm experience
(4) Other, specify ____________________________

13. How many years have you been working as an Extension administrators?

(1) Less than 1 year
(2) 1-3 years
(3) 4-6 years
(4) 7-10 years
(5) More than 10 years

14. How many years have you been working at your present station?

(1) Less than 1 year
(2) 1-3 years
(3) 4-6 years
(4) 7-10 years
(5) More than 10 years

15. How many other stations have you worked before?

(1) Only this one
(2) 2-4
(3) 5 or more.

16. What proportion of your Extension agents are you able to contact regularly?

(1) 1-10%
(2) 11-20%
(3) 21-30%
(4) 31-50%
17. What proportion of your farmers are you able to visit regularly?

(1) 1-10%
(2) 11-20%
(3) 21-30%
(4) 31-50%
(5) More than 50%.

18. What proportion of your women's groups are you able to visit regularly?

(1) 1-10%
(2) 11-20%
(3) 21-30%
(4) 31-50%
(5) More than 50%.

19. How far do you live from your work zone?

(1) Live in the zone
(2) 1-5 kilometers
(3) 6-10 kilometers
(4) More than 10 kilometers.

20. What means of transport do you use for visiting your Extension areas?

(1) Walking
(2) Bicycle
(3) G.K. motorbike
(4) G.K. vehicle
(5) Other, specify __________________________

II. Questions and Issues

1. How can women farmers be encouraged/supported to continue serving as environmental managers?
2. How do your program funding and goals integrate women into policy-making, priority setting, project design and implementation?

3. Does your ministry/office have any special device(s) for encouraging women to manage natural resources?

4. How do your communication and public relations practices advance women as environmental managers?

5. How does your department encourage other government departments and/or agencies to do the same?
6. How does your department communicate the availability of funds for women in environmental management?

7. What financial/material assistance is given to women farmers concerned with environmental conservation?

8. How does your ministry/office relate “women” projects to environmental projects?

9. To what extent are women involved in the planning of environmental projects?
10. How do you assist women’s groups to invest in environmental conservation projects?

11. Does your ministry/office provide training support to the groups’ leaders?

12. If women’s programs and environmental projects/programs are marginalized in your district, how could this be altered so that they were components of development planning prioritization?

13. What processes are in place to avoid adverse environmental effects on women and the poor in the development projects in Kwale?
14. How can your ministry/office strengthen the legal framework of women's ownership of natural resources?

15. How can your support for grassroots activities combine women and environmental management?
APPENDIX E

A list of experts who assisted with instruments' validation
A List of Expert Who Assisted with Instruments' Validation

From The Ohio State University

1. Dr. Ruben Nieto
2. Dr. Laith Roussan
3. Dr. Jovan Tibezinda
4. Dr. Patrick Bamwine

From Egerton University

1. Dr. A. A. Aboud
2. Dr. O Onyango
3. Miss Saudia Abdillahi
4. Mr. Amos Nzinga

From District Agricultural Officer Kwale

1. Miss Emily Mwadime
2. Mrs. Mary Mutune
3. Mr. B Mwakunena
4. Mr. K Dzilambe
REFERENCE


Okojie, C.E.E. (1990). Enhancing the access of rural women to appropriate technology in food production and processing in Nigeria. Manuscript.


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