

Swaziland

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Women and Agricultural Production on  
Swazi Nation Land

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## EXECUTIVE SUMMARY

When compared with many other African nations, the Kingdom of Swaziland has achieved substantial growth and improvement within many sectors of the economy in recent years. Nonetheless, future economic development strategies must contend with several socio-economic conditions which threaten the progress of economic growth. According to the FY 1985 CDSS update, these conditions include:

- o The stagnation of the agricultural sector (most particularly small-scale farmers producing on Swazi Nation Land, which comprises approximately 60% of total land area);
- o A substantial decrease in wage-employment opportunities within Swaziland and in the Republic of South Africa;
- o The existence of a large balance of trade deficit and an increase in the public debt created by loans secured from international lending agencies;

However, another crucial condition is:

- o The underutilization of human resources, particularly the failure of governmental policies and programs to adequately integrate women into national development strategies.

In an effort to combat the economic difficulties caused by the lack of agricultural growth, rising unemployment, and an increasing national deficit, the Government of Swaziland and international donor agencies have stressed the importance of establishing effective measures to increase overall agricultural development within Swaziland. Currently, the GOS, USAID, and other donor agencies are actively involved in addressing the goal of increasing agricultural production on Swazi Nation Land through several ongoing and proposed development projects, including:

- o The GOS Rural Development Areas (RDA) program which provides farmers with extension assistance, training, and a source of agricultural inputs and equipment;
- o The Cropping Systems Research and Extension Training Project (USAID-GOS);
- o The Small Farmer Irrigation Project (USAID-GOS proposed); and
- o The Credit and Marketing Project for Smallholders in Swaziland (IFAD-GOS).

The emphasis of these and other agricultural development projects has specifically concentrated on increasing overall production of agricultural goods and creating opportunities for alternative income sources. It is envisioned that providing agricultural training and assistance shall enable a large number of small-scale homestead farmers on Swazi Nation Land, to switch from subsistence to commercial farming. If successful, farmers would be able to obtain a cash income outside of the wage-employment market, while increasing national agricultural and homestead food production.

### The Role of Swazi Women in Agricultural Production

It is the purpose of this report to present the results of a pilot study on women in agricultural production on Swazi Nation Land. This study was undertaken in conjunction with the GOS-USAID Cropping Systems Research and Extension Training Project (CRST) and was specifically designed to provide policy and project recommendations to increase the participation of women in that project and enhance the integration of women farmers into national agricultural development. The study was funded by the South-East Consortium for International Development's (SECID) Center for Women in Development through a grant from USAID's Office of Women in Development.

Although this pilot research project provides only a glimpse of Swazi women agriculturalists, it is increasingly important that information on the needs, assets, and constraints of these farmers is collected and utilized to promote development assistance to Swazi women. While agricultural development programs and policies have stressed the necessity of effectively utilizing the human and natural resources of Swaziland to increase economic growth, women farmers have received little attention or assistance in this endeavor. This is, indeed, rather surprising when one considers that Swazi women have been primarily responsible for homestead-based agriculture, particularly as men have migrated off the homestead to the urban areas to engage in wage-employment. It has been estimated that women perform approximately 70% of all agricultural labor including ploughing, planting, weeding, hoeing, harvesting, and processing. Although womens' contribution to agricultural production has increased with the outmigration of Swazi males, women have always provided the majority of agricultural labor with the assistance of their children. Traditionally, Swazi males were responsible for clearing agricultural land and preparing the land for cultivation, using an ox-drawn plow. Increasingly, the outmigration of males has altered this traditional division of labor and women must accomplish these chores, either by plowing themselves or by hiring a plow or tractor.

Despite the importance of Swazi women farmers and their predominance in all homestead agricultural activities, these farmers have rarely been the recipients of substantial development assistance. Although agricultural development programs have not been designed to exclude or preempt women farmers from participating in modern agriculture, their social and economic status precludes their successful

participation in most conventional economic development strategies. Women's limited participation may be explained by a variety of social and economic conditions, which include:

- o Women receive less agricultural information and training from agricultural extension personnel than male farmers. Agricultural extension agents are predominately male (87% are male) and it is considered inappropriate for male strangers to visit women on the homestead. Therefore, men have received a disproportionate amount of agricultural training and assistance, while women must rely on traditional, less productive agricultural methods;
- o Women farmers have considerably less access to cash resources than men, and consequently are unable to purchase agricultural inputs and equipment or hire equipment and labor as readily as male farmers;
- o Women have very limited access to credit sources because males control the ownership and allocation of cattle which serve as collateral for loans; and therefore, women lack the capital necessary to increase agricultural production without male sponsorship; and
- o While male farmers may recruit all available homestead labor to engage in agricultural production, women farmers must rely on their own and their children's labor. (Andrehn, et.al 1977, Barnes, 1979, Carloni, 1982).

Because agricultural development policies and programs have essentially been designed to increase male participation in agricultural production while decreasing male reliance on the wage-employment market, programs which specifically address the needs and constraints of women farmers have been few and ineffective. Certainly, it is more expeditious to design programs for males as they are simply not as constrained and restricted as women farmers. However, women farmers do possess several assets that enable them to be successful farmers and to participate effectively in appropriately designed development schemes. For example:

- o Frequently, women farmers undertake particularly arduous and time-consuming agricultural tasks collectively for exchange labor or in-kind payment. These collective units could easily be utilized by extension personnel to provide agricultural information and training in an effective manner;
- o Women play a significant role in homestead agricultural decision-making. In fact, women appear to gain increasing control over agricultural decision-making when males are absent from the homestead (as frequently occurs in Swaziland's wage-employment economy). Even when males are engaged as full-time farmers, women are often consulted when important agricultural decisions are made;

- o Evidence from this pilot study and other research conducted on African women farmers (see Staudt 1983) has shown that when women receive sufficient training and assistance in "modern agriculture" they are at least as productive as male farmers;
- o Recent studies in Swaziland, in addition to the present study, have suggested that women farmers are extremely interested in learning more about modern agricultural methods and in entering the commercial farming economy. Women farmers are, therefore, both experienced agriculturalists and willing participants for agricultural development programs. (Andrehn, et.al.; 1977).

Swazi women comprise not only one-half of the human resources of the nation, they also represent the most disadvantaged and poorest section of the population. 22% of the homesteads are headed by women. These homesteads tend to be poorer than male-headed homesteads. (Barnes; 1981). For Swaziland's economic development to proceed effectively and for the benefits of economic growth to be distributed equitably, women must become equal participants in development strategies. Further, if the success of economic development is so integrally tied to increasing agricultural production and the economic viability of homestead-based agriculture, the expertise and the labor and commitment of women farmers must be obtained.

## Introduction

In Swaziland, as in many other African nations, women are an integral part of agricultural production. Women have been and continue to be the backbone of subsistence farming in Swaziland. Traditionally, women have provided the bulk of the labor in agriculture. Women were responsible for planting, weeding and harvesting of crops, while men cleared the land. Development efforts have altered the sexual division of labor in agriculture. Changes in both the agricultural and industrial sectors have impacted on the traditional division of labor. Development has often had adverse impacts on women including increasing their workload and decreasing the ability of poor rural women to provide for the subsistence needs of their families (Boserup, 1970; Tinker, 1981).

Changes in Swazi agricultural production have occurred in conjunction with economic development in Swaziland and South Africa. Of particular importance in understanding women's role in agriculture is the continuing migration of males away from rural areas to work in the mines or towns. Women remain in rural areas and continue to produce the family food supply while the men are absent. Studies in other Southern African countries have emphasized both women's increased responsibility for agriculture and the economic hardship on women which results from male migration (Koussouji and Mueller, 1983; Safilios-Rothschild, 1982, Gordon, 1981).

The present division of labor in agriculture reflects the adaptation of the traditional Swazi society to changes which have resulted from development. Contradictions emerge between Swazi attempts to adhere to tradition and the realities of performing daily activities. For example,

although tradition suggests that men have responsibility for plowing with oxen, the absence of males often results in women assuming the responsibility for the male task of plowing (Saunders, 1982). The alteration of the traditional sexual division of labor as a result of development efforts is not sufficiently understood. While women's participation in agricultural production is acknowledged, the extent of women's contribution is often not recognized by development planners. Attempts to improve agricultural production and to encourage cash-crop production must consider the economic contribution of women.

The U.S. Agency for International Development policy paper on women in development points out that in most developing countries, women differ from men in their: "access to and control over productive resources; stakes in development outcomes; (and) responses to incentives introduced to encourage development" (USAID, 1982:2). In order for development projects to succeed, the different constraints which women and men face must be assessed. USAID policy concerning women in agricultural development projects emphasizes four aspects: 1) comprehension of the sexual division of labor by crop, 2) recognition of male and female differences in access to and control over productive resources, 3) attention to aspects of the farming system which are specifically women's activities, and 4) strategies to provide outreach to both women and men farmers (USAID, 1982). The present study specifically addresses these issues and provides information for the Swaziland Cropping Systems Research and Extension Training project which will assist the project in meeting the policy goals of USAID in regard to women in agriculture. Exploratory research on the sexual division of

labor and differential access and control of resources by women and men was conducted and the findings are presented. Recommendations are provided which address how implementation of the cropping systems project can take into account gender differentials.

### Cropping Systems Project in Swaziland

The Swaziland Cropping Systems Research and Extension Training Project is based on the farming systems research and development strategy. Farming systems research and development (FSR&D) is a development strategy aimed at improving the situation of small farmers. The farming systems approach emerged as a result of the inability of previous development projects to address the needs of small farmers. Previous efforts have been directed either to high-resource farmers or to small farmers without consideration of the constraints or conditions under which low-resource farms operate. Specifically, farming systems attempts to increase productivity through the development of technologies which fit the needs of farmers (Shaner et al., 1981). Cropping systems differs from farming systems primarily in focusing on crops rather than livestock production. Although crop production is emphasized, a cropping systems project considers the interplay between cropping systems and livestock on farms. Detailed descriptions of the farming systems approach are documented elsewhere (Harwood, 1979; Shaner et al., 1981).

In contrast to many other agricultural development strategies, the farming systems approach involves a methodology which logically includes women in the agricultural development process. Farming systems focuses on the entire range of activities of the farm household and on the interplay

between these various activities. Rather than focusing solely on the interests of the household head, the farming systems approach is explicitly concerned with the interests of the entire farm family (Shaner et al., 1981). From this perspective, women's work is viewed as integral to the operation of the farming system. The farming systems approach encourages consideration of the impact of proposed changes on the sexual division of labor and includes consideration of the multiplicity of women's activities prior to the introduction of new agricultural methods. In sum, the farming systems approach is a development framework which in its implementation should fulfill the policy goals of USAID with respect to women in agriculture. The present study explores women's role in agriculture on Swazi Nation Land homesteads with the purpose of providing recommendations to the Cropping Systems Project for improving agricultural productivity.

The goal of the Swaziland Cropping Systems Research and Extension Training Project is to increase the economic viability of farming on Swazi Nation. The purpose of the project is to improve the research and extension capabilities of the Ministry of Agriculture and Cooperatives in meeting the needs of small farmers. In contrast to previous agricultural development projects, the cropping systems approach is geared to increasing crop production on small holder farms rather than on large private farms and estates. Recognition of the constraints which small farmers face was instrumental in the design of the project. The approach is geared to overcome three basic constraints to increasing small farmers' incomes including: 1) lack of adequate research recommendations, 2) the inability of extension to motivate farmers, and 3) the lack of adequate field support for extension.

The cropping systems approach attempts to develop technology which is geared to the farmers' needs. Cropping systems research differs from the traditional approach in its interdisciplinary nature and in the conduct of research on the land of the small farmers. The research component of the project includes the following individuals: cropping systems specialist, agronomist, horticulturalist, irrigation specialist, agricultural economist and rural sociologist. Each member of the technical assistance team works in conjunction with a Swazi counterpart. These individuals work together in designing research appropriate to the needs of the small farmer. Research is carried out on the land of the small farmer using the techniques and inputs available to the farmer. Experiments are planned and conducted with the cooperation of the farmer and when possible the farmer is involved in the actual implementation of the experiment.

The project began in April 1982, and is now in its second year of operation and the second agricultural season for the project begins in October 1983. At present, on-farm research is being conducted in the following three areas of the country: Northern RDA, Central RDA, and Mahlangatsha. The project plans to move into other areas during the next season. Both dryland farmers and farmers on irrigation schemes are included in the on-farm research efforts.

The project has been designed with consideration of women's crucial role in the cropping system. The project paper notes that women perform approximately 70 percent of the agricultural work (USAID, 1981). In recognizing the importance of women in the cropping system, the project paper states that the project "will be carried out with a high degree of sensitivity to the agricultural contributions and unique circumstances of

SNL women," and further "under no circumstances will recommendations be promoted that are considered detrimental to the status of women" (USAID, 1981:D-8, 40). The goals relating to women will be implemented throughout the project in the following manner: 1) instruction of women in the use and maintenance of all technological innovations, 2) improvement of access to extension information by women farmers, and 3) training of women researchers.

#### SECID Fellowship Activities in Swaziland

The research was conducted through the support of fellowships from the Center for Women in Development of the South-East Consortium for International Development, funded by A.I.D.'s Office of Women in Development. The purpose of the fellowships is to increase the participation of women in international development at SECID institutions. Further, SECID fellowships are awarded to individuals to undertake research on women in developing countries in conjunction with ongoing SECID projects.

The fellowships for Swaziland were granted to study women's work in agriculture in conjunction with the Cropping Systems Research and Extension Training Project. The research was conducted with the assistance of the Cropping Systems Research team (CSRT) and the Ministry of Agriculture and Cooperative at Malkerns Research Station. Prior to undertaking our study, we participated with team members in informal surveys of homesteads in Central RDA and Mahlangatsha. Through working in the field with team members including the agronomist, agricultural economist, rural sociologist and horticulturalist, we were able to understand the types of technical and socioeconomic information which would be useful to the cropping systems

team. Participation in the informal surveys also provided experience in conducting interviews on Swazi homesteads. In addition to our work with team members, we also contacted extension personnel, sociologists and home economists at the Ministry of Agriculture and Cooperatives (MOAC), sociologists and economists at the University of Swaziland, and the social science analyst of USAID Regional Economic Development Services Office for East and Southern Africa, and other technical agricultural people working in the country. A review of literature was conducted. On-site visits to women in development projects in Swaziland were conducted. As a result of our work on the informal surveys, discussions with other professionals working in agricultural development, and review of past and current efforts; we were able to identify research needs relating to women in agriculture in Swaziland.

Given the current stage of the cropping systems project, the study was designed to provide base-line information on women's roles in agricultural production. Of particular importance to the project in its initial phases of implementation is information on labor patterns, access to resources, and access to agricultural information. In line with the goals of the cropping systems project and USAID women in development policy, the present study examines the sexual division of labor in crops, women's differential access to and control over resources, and differential access to agricultural information. The study also provides a background on factors impacting on women's roles in agricultural production including the land tenure system, crop production patterns, homestead organization, and the interplay between wage employment and agriculture.

## Factors Impacting on Women and Agricultural Production on Swazi Nation Land

Women's activities in crop production in Swaziland can be understood through attention to the land tenure system, homestead crop production patterns, homestead organization, and the interplay between the agricultural and industrial sector. Women's and men's activities in agriculture differ as a result of the complex relationship between these factors.

### Land Tenure

A dual land tenure system has existed in Swaziland since 1907 as a consequence of British colonial law. In 1907, 37 percent of the land was designated as Swazi Nation Land for the exclusive use of Swazis, while the remainder of the land was owned by Europeans under a system of private property (Amoah et al., 1982). The Swazis have continually purchased land from Europeans such that at present Swazi Nation Land comprises 60 percent of the total land area in Swaziland.

The dual land tenure system continues to result in a dichotomization in agricultural production in terms of farm sizes, cropping patterns, and profitability (deVletter, 1982). The average homestead size in Swazi Nation Land is three hectares compared to an average of 880 hectares on individual tenure farms. The individual tenure farms vary in size and ownership patterns. The largest farms are owned by corporations, while three-quarters of farms are held by Swazis and non-Swazis. The type of production of the two tenure systems is quite distinct. The major crop produced on Swazi Nation Land is maize which is produced primarily as a food crop for consumption on the homestead. Cash crops produced on Swazi Nation Land are cotton and tobacco. On individual tenure farms the major crops

are sugar, citrus and cotton. Approximately 60 percent of total production occurs on the individual tenure farms. As deVletter (1982) emphasizes, the growth in Swazi agriculture has benefited the owners of individual tenure farms rather than farmers on Swazi homesteads.

Swazi Nation Land consists predominantly of small-scale agricultural producers organized into rural homesteads. All Swazis belong to a particular homestead whether or not they reside on the homestead. Traditionally, Swazis have access to land through their membership in a homestead. All land is formally controlled by the chief of the area, who allocates land to homesteads within his jurisdiction. Each homestead has land use rights. Exclusive rights of individual ownership are nonexistent, but a homestead maintains access to their particular fields through continued use of arable land. Grazing land is held in common and is not allocated to individual homesteads.

Within each homestead, the homestead head controls land distribution. The patrilineal character of Swazi society is at the basis of the land tenure system on Swazi Nation Land. In this patrilineal society, the homestead head, usually the eldest male, controls the allocation of land to members of the homestead. Sons of the head are allocated land only upon marriage. The wives of the male homestead members have access to land through their husbands and are expected to till their husbands' fields (Ngubane, 1983). Although women acquire land use rights upon marriage, they do not necessarily have control of the land. The land is used predominantly to provide for the subsistence needs of their families.

Within the homestead, the distribution of land to family members is often unequal. Women have little control over the land distribution process. Land is distributed by the chief (always a male) to the homestead head and then by the homestead head to his wives and sons. The eldest males have the most control of land distribution, while the youngest women have the least control.

Another system of land tenure occurs on irrigation schemes on Swazi Nation Land. At present, only a small proportion of Swazi farmers have irrigated plots, but development plans for Swaziland emphasize continued expansion of irrigation schemes. On the schemes, land is distributed by the chief to individuals rather than homesteads. Although the irrigated land does not actually belong to the individuals, individuals have a right to their plots as long as they use the land. Both men or women obtain irrigated plots. A study of the irrigation schemes in Northern RDA found that women plot holders outnumber men by a ratio of two to one (Carlioni, 1982).

### Crop Production

Maize is the staple food in Swaziland and is the major crop produced on Swazi Nation Land. In addition to maize, homesteads produce other crops for their subsistence needs including pumpkins, beans and melons. Several varieties of weeds in the maize fields are often foraged and cooked to supplement the family food supply. Women have the primary responsibility for production of maize and other subsistence crops.

Maize is produced on 96 percent of the homesteads. As Sibisi (1981) and Low and Fowler (1980) point out, maize production is usually aimed at subsistence rather than surplus production. Homesteads generally attempt

to produce sufficient maize to feed the family members throughout the year. Although the majority of homesteads aim to produce sufficient food, 48 percent of Swazi homesteads are maize deficient. The ability of the homesteads to produce sufficient maize depends on the rainfall pattern and economic circumstances. Rainfall patterns vary substantially between the three geographical areas in Swaziland which consist of high veld, middle veld and low veld and plateau. The high veld has the highest average inches of rainfall annually compared to the middle veld followed by the low veld. In addition, the rainfall pattern varies considerably from year to year. A 1980 survey found 48 percent of homesteads supplementing their maize production with purchases of maize. The extent of self-sufficiency in maize varied considerably by geographical areas with only 39 percent maize sufficient homesteads in the low veld compared to 65 percent maize sufficient homesteads in the high veld (deVletter, 1981).

The maize deficit has continued despite government efforts to improve maize production. In Swaziland, the major effort to improve small-holder agriculture is the Rural Development Area Programme (RDAP) which was initiated in 1965 by the British government. The RDAP has expanded and continues to promote improved agriculture, although the approach has changed over the years. Initially, the British attempted to introduce technical changes and new crops to Swazi farmers through focusing on areas with high potential. An expanded RDAP was established in 1971 and provided the following services: land planning and resource analysis, land development, infrastructure development, crop and livestock extension, and credit. During the years 1971 to 1977, a major strategy was to promote cash-crop production of cotton and tobacco. In addition, improved maize production was

encouraged through the use of hybrid seeds, fertilizer, and insecticides. The effort was geared to insure maize self-sufficiency in Swaziland (Funnel, 1981). Despite government efforts to encourage cash-crop production and thereby discourage rural outmigration, homesteads generally pursued the strategy of producing only their subsistence needs.

Over the past 10 years, the RDAP has developed infrastructures including roads, water, and small-scale irrigation schemes, and services including tractor hire, cooperatives, extension, credit, and input supply. The RDAP has been successful in increasing the use of hybrid maize, fertilizer, and pesticides. Perhaps the major change in maize production is the use of hybrid seeds. The success of extension efforts is attested by the fact that approximately two-thirds of the land in maize production is planted in hybrid maize (deVletter, 1982). Other technological changes in agriculture include the use of tractors, fertilizer and pesticides. Tractor use has increased rapidly with approximately 40 percent of homesteads using tractors. The use of tractors is most frequent among farmers in RDA's, cash croppers, and cotton farmers (deVletter, 1982). Approximately 50 percent of farmers purchase chemical fertilizer. However, due to the cost of fertilizer, farmers use less than the recommended rates of application. Application has been estimated to be at one-quarter, of the recommended rates (deVletter, 1982).

Despite the success of the RDAP in encouraging the use of new agricultural technology, there has not been a nationwide increase in maize production. The hoped for results of improving the economic viability of small holder agriculture and thereby limiting rural migration did not occur. Rather, the majority of homesteads strive to produce their maize subsistence needs through the use of new technologies, but few have the

incentive to produce a surplus. Women often remain on the homestead to produce the family food supply while men continue to migrate to the towns.

Approximately 12 percent of homesteads sell maize. Many of the homesteads selling maize sell only a small amount and often buy maize later in the year. The incentive for selling maize, despite an insufficient amount for the family food supply is to provide a cash flow for the homestead. Sibisi (1981) and Low and Fowler (1980) argue that many more homesteads are capable of producing surplus maize but the incentive is low due to the low price which farmers receive when selling their surplus. Farmers who have exhibited the capability to produce surplus maize have frequently diversified into other activities due to the low profit attained from selling maize. As Russell et al. (1982) notes, many of the surplus producers have aimed only at subsistence production but have erratic surpluses which are often unintentional. The majority of farmers complain that the buying price is too low (Sibisi, 1981). The official monopoly of the Swazi Milling Company for buying maize is viewed by most farmers to be the cause of low prices. The SNL farmers believe that Swazi Milling favors whites and South Africans and therefore consider Swazi Milling as a buyer of last resort. When farmers produce a surplus, they prefer to sell to their maize deficient neighbors, because they may receive a better price without the transportation costs.

The major cash crop produced on Swazi Nation Land is cotton which is grown primarily in the low veld. Increased cotton production has occurred on Swazi Nation Land since the 1960's. Estimates suggest that approximately 18,000 hectares of SNL are used for cotton production despite the low priority given to cotton production by RDA programs. Cotton

production on the average homestead ranges from 3.0 to 4.7 hectares under cultivation (Kliest, 1982). Farmers have pursued the production of cotton in response to increasing cotton prices. Concern has been expressed that cotton is being substituted for food crops thereby limiting the prospects of maize self-sufficiency in Swaziland. Many farmers in the low veld state that extension personnel assist cotton farmers exclusively (deVletter, 1981). Some farmers have substituted cotton for food crops, but cotton production has not yet led to total substitution of food crop production in any area of Swaziland (Kliest, 1982).

Another cash crop is tobacco, but its importance is declining due to South African quotas and rising transport costs (deVletter, 1981). Of particular interest in this study is the growing importance of vegetable production as both a subsistence and cash crop.

The goal of development programs in Swaziland to improve production of maize and other cash crops on Swazi Nation Land has not been achieved for a number of reasons. DeVletter (1982) points to the tendency for rural development programs to be compromised by large-scale commercial agricultural ventures. Government planning has distinct programs for commercial agriculture as compared to rural development. Commercial agricultural projects receive a large proportion of available resources and consider macroeconomic issues. The rural development projects tend to operate in microeconomic isolation focusing on changes in attitudes, agricultural techniques and welfare approaches and often ignore broader economic issues which impinge on the homesteads (deVletter, 1982).

The introduction of cash-crop production in many African countries has favored men. The intersection of traditional practices and Western developers' bias in support of male-controlled agriculture has often resulted in a dual agricultural system with men involved in commercial production and women assuming increased responsibility for subsistence production. Women's workload in many instances has increased as women provide labor in the men's cash crops as well as in subsistence production. In some cases, women have been forced to work harder to provide for their families' subsistence needs (Strobel, 1982). In other instances, women have resisted the introduction of cash crops when they did not control the products of their labor. Attempts to encourage commercial production on Swazi Nation Land must investigate the differential impact of commercial production on men and women. Of particular interest in the present study is how the division of labor between the sexes and the resources available to men and women may impact on the improvement of production.

#### Homestead Organization

The structure of the homestead impacts on the labor available for agricultural operations. Russell (1983) delineates the following three characteristics of the homestead as an economic unit: it is a place, an associated network of kin, and a unit of agricultural production. The homestead is more than a residence and place of agricultural production, since all Swazis identify with a homestead regardless of their place of residence.

The Swazi homestead organization is characterized by patrilocal residence (residence of the wife at her husband's homestead) and polygyny

(plurality of wives). Women living on a particular homestead include the wife or wives of the homestead head and the wives of their sons. When a man marries more than one woman, all of his wives may reside at the same homestead or he alternatively may establish separate homesteads. As Sibisi (1979) notes, the prominent feature of a homestead is that it is in a constant state of change as it grows and divides. Growth and division in the homestead often involves the addition or separation of households. New households are added to the homestead when sons marry or when the homestead head or sons marry an additional wife. If additional households are added through the marriage of a son, the households are usually allocated their own land. In polygynous homesteads, each wife usually has her own fields (Barnes, 1979). The separation of households occur as a son and his family leave his father's homestead to establish a new homestead. The timing of the move depends on resources available to the family including both cash and land and the internal relations within the homestead.

The distinction between households and homesteads has methodological and substantive implications for agricultural development activities. The homestead may consist of one or more households. In the case where only one nuclear family resides on the homestead, the household is synonymous with the homestead. However, in complex homesteads, in which polygamous or extended families reside, the household and homestead are distinct entities. Black Michaud and Simelane (1981) have effectively argued that the household is the proper unit of analysis for survey research due to the inequalities which may exist between households within the same homestead. The grounds for distinguishing between the household and homestead is more clearly delineated by Russell (1983) who notes that production is located in the

homestead, while consumption occurs in the household. The inequality between households is usually the result of income generated outside of the homestead which belongs to the household of the wage earner rather than to the entire homestead. Women's role in agricultural production varies according to the organization of the homestead and the position of her household within the homestead.

#### Wage Employment and Agriculture

Rural homesteads depend on both wage employment and subsistence production to meet economic needs. As Russell states, "each household stands with a foot in each sector" (1983:21). Russell found only 9 percent of rural homesteads with no wage earners and 13 percent of wage earners with no rural homestead, and even these few cases are probably only temporary situations. Wage employment is dominated by males who comprise 75 percent of the labor force. Men are often in wage employment while women remain on homesteads to produce the family food supply and raise children. Approximately 58 percent of males are in wage employment (deVletter, 1981). Homesteads depend on both cash income and agricultural production for their subsistence. Any attempt to encourage cash-crop production on Swazi Nation Land must take into account the alternative of wage employment. Figures on the sources of cash to rural homesteads vary but indicate that from 32 to 70 percent of homestead cash income is from wage employment (Russell, 1983).

#### Agricultural Development

Agricultural development efforts relating to cropping systems on Swazi Nation Land emphasizes improvement of dryland agriculture, development

of irrigation schemes, and the formation of cooperatives. Efforts to improve agricultural production have been centered on the Rural Development Area (RDA) program. Attempts to improve dryland agriculture, particularly maize production, have involved the introduction of hybrid maize, fertilizer, and pesticides. In addition, the RDA's have tractor pools to encourage improved ploughing techniques and extension officers to convey information to homesteads. Productivity remains low despite the uptake of improved agricultural practices by SNL farmers. The incentives for surplus production are low due to a number of factors: The price of maize is low discouraging farmers from producing a surplus; wage labor is a more profitable alternative to farming; and the labor force on the homestead is reduced due to migration and formal schooling. Of particular interest in this study is the importance of women's roles in homestead agricultural production. With the goal of increasing surplus production, the cropping systems team must recognize that women are the primary agricultural producers. In order to improve crop production, the constraints which are specific to women producers must be identified and overcome.

An emphasis of Swazi agricultural development is to increase small-holder irrigated agriculture. Within the RDA's, small-holder irrigation schemes are being established and the emphasis on these schemes is to encourage cash-crop production of vegetables. Vegetable production is typically women's work and consequently many of the plot holders on irrigation schemes are women. Carloni (1982) found that 67 percent of plot holders on five irrigation schemes in Northern RDA were female. Women's labor is crucial on male plots as well. The earning potential for men on irrigation schemes is not comparable with wage employment opportunities.

However, for women, vegetable production may provide a profitable alternative to handicraft production or other types of income-generating activity pursued by women. Possible constraints to vegetable production for women may be access to loans, husbands' control over profits, and time due to participation in multiple activities (Carloni, 1982).

Another major focus of the Ministry of Agriculture and Cooperatives has been the development of cooperatives. Farmer cooperatives have the potential of improving farmers access to information, reducing input costs, and marketing prospects. As Guma and Simelane (1982) notes, the cooperative movement has proceeded slowly due to a variety of factors. Resistance to government-organized cooperatives is a key factor. The hierarchical character of traditional society also mitigates against successful cooperative organization. A tradition of cooperatives does not exist in Swaziland, although there is a tradition of sharing labor among homesteads. Cooperatives, offer the possibility of improving the situation of a group of farmers. For women, cooperative membership may provide opportunities which are not available to individual women. Several authors have suggested that officially recognized women's cooperatives may be a key to the improvement of women's productivity (see, for example, Safilios-Rothschild, 1982).

### Methodology

#### Sample

In order to examine women's participation in agriculture, the sample was stratified according to area and type of agricultural organization. Respondents were all farmers on Swazi Nation Land involved in dryland

production, government-supported irrigation schemes, or a participant-initiated women's cooperative. The areas selected for the study were Lubumbo/Mpolonjeni RDA and Central RDA. Lubumbo/Mpolonjeni was chosen due to the diversity of agriculture and the probability that the cropping systems project will begin work in that area next year. Central RDA was chosen as one sample area due to the presence of both a women's cooperative and the cropping systems project.

The sample consists of 42 respondents. Nineteen are dryland farmers, 11 are involved in irrigation schemes, and 12 are members of a women's cooperative. Since this study was exploratory in nature and the sample size was limited, no attempt was made to randomize the selection of respondents within each area. Farmers were identified with the assistance of extension workers in the dryland areas. However, once the extension worker identified an area, the individual respondents were selected by the interview teams. Irrigation scheme members and cooperative members were identified by leaders of the irrigation schemes and the cooperatives. Interviews were conducted with the person responsible for agriculture at each homestead or irrigation plot. Both women and men were interviewed for the purpose of attaining comparisons between women and men agriculturalists. Thirty women and 12 men were interviewed. The interviews were from one to two- and one-half hours in duration and were conducted by two two-person teams, each including a Swazi and an American. All interviews were conducted in SiSwati and translated into English. Notes were taken during the interview.

The survey consisted of nine sections with information obtained on homestead composition, agricultural inputs and methods, attitudes toward

cooperatives, agricultural labor practices, agricultural decision-making, resource availability, marketing, access to agricultural information, and problems and possibilities in farming (see Appendix A).

#### Description of Study Areas

Lubumbo/Mpolonjeni is an RDA located in the eastern area of Swaziland. Lubumbo is on the plateau, a climatic zone which usually has adequate rainfall. Compared to the neighboring low veld, farmers on the plateau have the advantage of regular surplus yields of maize which can be marketed in the maize deficient low veld. However, compared to other regions in the country, a large percentage (27 percent) of homesteads are without land and livestock (Barnes, 1979). Lubumbo is located within an RDA and is an area into which the Cropping Systems project intends to expand in 1983-1984.

Mpolonjeni, located in the low veld, has a hot, arid climate with an average rainfall of 20 to 35 inches. Due to climatic circumstances, the low veld is a maize-deficient area. Mpolonjeni is in close proximity to large-scale sugar plantations and mills located at Big Bend. The Mpolonjeni dryland farmers in the sample produced maize and/or cotton. The homesteads had low resources and were generally maize deficient. Several of the farmers had recently begun to grow cotton.

Farmers on government-supported irrigation schemes were selected from two irrigation schemes in Mpolonjeni, Magwanyane and Kalanga. Magwanyane is an irrigation scheme consisting of 100 hectares and 36 farmers. Each farmer has an irrigated plot on which vegetables or cotton is produced. In addition, the farmers collectively grow sugarcane and have a daily contract to supply sugarcane to the sugar mill at Big Bend. The scheme

began in 1972 following the construction of the Nyetane Dam. The farmers were provided with an agricultural field officer in 1972, giving them a distinct advantage over other farmers in terms of access to extension information. In 1976, the farmers became a cooperative which provided them with a source of input supply, credit, accounting services and marketing facilities. In 1977 the farmers applied for a sugar quota and in 1982 were producing 52.9 hectares of sugar. With the onset of sugar production, the Magwanyane farmers have experienced financial success. Many of the farmers hire labor to work in the sugarcane, while the farmers themselves provide the labor in their individual vegetable plots. As McCann (1981) suggests, as the farmers increase their income, they are likely to withdraw their labor and hire local laborers. Magwanyane has some technical and management problems. For example, the diesel-powered water pump had been inoperative for two months, due to problems with parts and maintenance. Such mechanical breakdowns are common on irrigation schemes in developing countries due to the lack of qualified mechanics and the unavailability of spare parts. However, despite these problems, the Magwanyane scheme has proved to be prosperous. McCann (1981) concludes that the Magwanyane project has been successful in improving farmers' incomes, but has moved in the direction of creating a subsidized elite group of farmers.

The other irrigation scheme, Kalanga, began in 1974 and consists of 18 farmers each with one hectare of irrigated land and two hectares of dryland in the scheme. The irrigated land is planted in vegetables and green maize while the dryland is used predominantly for cotton production.

The farmers at Kalanga are not as prosperous as those at Magwanyane. Their problems are insufficient water, lack of marketing opportunities, and last but not least, the hippopotamus who lives in their dam and consistently breaks the fences to feed on green maize and vegetables.

The final area in the study was Ludzeludze in Central RDA which was selected due to the presence of both a women's cooperative and ongoing research and demonstrations by the cropping systems project. This area is within walking distance of Matsapa Industrial Complex providing accessible job opportunities for people in the area. Land availability is limited due to the high population density near the industrial area and the proximity of the King's fields. A women's cooperative consisting of 16 women began in January 1983 with the leadership of a dynamic woman. The women organized specifically for the purpose of gaining timely access to the RDA tractor. Their activities have expanded to include vegetable gardens, fencing for gardens, construction of latrines, and handicraft production. Also they are planning to begin a poultry enterprise and a large vegetable project. However, at present they are arguing with the chief, who refuses to give them land near the river which they would use to expand their crop production. The cooperative appears to have been successful in less than a year of existence. The cooperative involves local participation and leadership. Through the formation of a cooperative, the women have gained access to government assistance and are diversifying and improving their cropping and livestock production practices. At the same time, they are improving the family food supply and sanitation practices.

## Results of Study

### Homestead Composition

Of the homesteads in the sample, 59 percent consisted of nuclear families, 24 percent were extended families, and 17 percent were polygamous families. Men were the homestead heads on 89 percent of the homesteads, with the remaining 11 percent headed by women. The number of people per homestead ranged from 1 to 18 people with an average of 8.9 people per homestead.

### Labor in Agriculture

The availability of labor on homesteads has changed considerably over the past decades due to male outmigration. deVletter's (1981) study of 1,150 homesteads found that 58 percent of adult males and 28 percent of adult females were absent from the homestead. In our sample, 63 percent of the adult males and 12 percent of the adult females were absent. The people remaining on the homestead are predominantly adult women and children, with women outnumbering men by almost 3 to 1. Absentee workers regularly return to their homesteads. The present study found approximately 70 percent of absentees returning at least monthly while deVletter (1981) found half of the workers returning monthly. Although the visits are frequent, they are normally for a duration of only two days thus limiting the amount of labor which is contributed. South African mine workers generally work on a contract for 6 to 9 months and return to their homesteads for approximately 3 to 4 months (deVletter, 1981). Male homestead heads are more likely to reside on the homestead than other adult males.

Fifty percent of the homestead heads resided on the homestead with 25 percent of those residing on homesteads engaged in wage employment. Thus 33 percent of the male homestead heads were at the homestead full time. The available labor force is predominantly female.

Various studies have shown that adult women provide the major agricultural labor in planting, weeding, and harvesting (Andrehn et al., 1977, Nxumalo, 1979, deVletter, 1981). Based on interviews with 308 women throughout Swaziland, Nxumalo's study of the division of labor in agriculture reveals that women have primary responsibility for planting, hoeing, weeding, harvesting, grain storage, food preservation, and tending livestock (Table 1). Women also predominate in collecting water and firewood, purchasing and preparing food, handicrafts, brewing beer and selling produce. In the Northern RDA, women also had primary responsibility for ploughing (Andrehn et al., 1977). In general, men's work includes ploughing, fencing, milking cows and repair work. Low (1977) found that women provide the majority of labor in maize, followed by children and then men as measured by number of hours worked. A time allocation study in Northern RDA found that women's labor input into agriculture was three times that of men.

In the present study, labor patterns were examined in the various agricultural activities. Ploughing, the first activity of the cropping season, is traditionally the men's responsibility. Male homestead heads maintain a responsibility to plough the fields regardless of their absence. Many men return to their homesteads at ploughing time, but their ability to return at the appropriate time is often limited by the demands of their jobs. A recent study revealed that only 31 percent of wage workers return

Table 1. Division of Labor in Agriculture on Swazi Nation Land 1978/1979.

	Percent with Primary Responsibility			
	Female	Male	Children	Other Relatives
Preparing land	34.7	54.6	9.2	1.5
Fertilization	39.7	47.2	10.6	2.5
Ploughing	24.4	61.9	12.7	1.0
Planting	52.7	35.8	7.8	3.7
Hoeing	88.5	1.9	3.8	5.8
Weeding	91.0	0.0	3.8	5.2
Harvesting	92.4	1.3	0.4	5.9
Sorting/storing	88.7	6.0	1.0	4.3
Food preservation	96.4	0	0	3.6
Tending sheep and goats	47.3	21.8	27.3	0
Cattle	46.7	20.6	32.7	0
Cattle dip	34.6	30.7	33.9	0.8

Source: Nxumalo, 1981, p. 11.

home for ploughing. When men are unable to return, they may send cash for hiring a tractor or oxen. One-fourth of the absentee workers sent money for tractor hire.

deVletter (1981) found that 40 percent of homesteads used tractors although the figure was as high as 86 percent in RDA's. Ploughing is performed with a hired tractor on 68 percent of the homesteads in the present study (see Table 2). The percentage of homesteads hiring tractors for ploughing is considerably higher in the present study since the study was conducted in RDA's and included irrigation scheme members and cooperative members who have easier access to tractors.

Oxen ploughing predominated on the Lubumbo plateau where 75 percent of farmers ploughed with oxen. Of these, the head, wife and others were

Table 2. Number of Homesteads by Family Labor Participation in Dryland Agriculture by Region.

	Magwanyane	Kalanga Scheme	Kalanga Dry	Tikhuba	Coop	Total Percent
<u>Ploughing</u>						
Tractor hire	5	4	4	3	11	66
Tractor (own)	--	--	--	1	1	2
Head/wife/others (oxen)	--	1	1	5	--	17
Head/others (oxen)	1	--	1	--	--	5
Wife/others (oxen)	--	--	--	4	--	10
<u>Planting</u>						
Women	3	--	1	4	1	22
Women/children	--	1	1	2	6	24
Women/men	2	3	4	5	2	39
Women/men/children	--	--	--	--	2	5
Women	1	1	--	2	--	10
<u>Weeding</u>						
Women	2	3	2	9	2	44
Women/children	2	1	--	1	5	22
Women/men	2	--	2	2	2	20
Women/men/children	--	--	2	--	2	9
Men	--	1	--	1	--	5
<u>Harvesting</u>						
Women	2	3	2	9	3	46
Women/children	2	1	1	1	5	25
Women/men	2	--	3	1	1	17
Women/men/children	--	--	--	1	2	7
Men	--	1	--	1	--	5

responsible for ploughing in 50 percent of the homesteads while in the other half the women ploughed with children and others.

In planting of dryland crops, women and children were responsible for 45 percent of planting, women and men for 38 percent, and men only for 7 percent. Women are involved in planting on 83 percent of homesteads, while men plant on 45 percent of homesteads.

As previous studies have indicated, women have the primary responsibility for weeding. Women do weeding often with children's help in 95 percent of homesteads, while men participate in 31 percent of the homesteads. Approximately 30 percent of the homesteads hired labor to assist with weeding. Harvesting and processing of maize is performed primarily by women and children. Men assisted in harvesting on 19 percent of homesteads and in processing on 21 percent of homesteads. In all but one case, the men involved in harvesting and processing were the homestead heads.

On the irrigation schemes, plots are assigned to individuals rather than households. In some cases women have separate plots from their husbands. On the irrigation schemes, all ploughing was accomplished with a hired tractor. In planting, women were more likely to hire labor, while men often had their wives' assistance. The majority of both men and women on the irrigation schemes hired workers to assist with weeding and harvesting. Women never had their husband's assistance. A woman on the irrigation scheme reported that men often join the scheme, but do the work. On the irrigation schemes, 87 percent of women and 83 percent of men produced a surplus. In the women's cooperative, women and their children were providing all the labor in the small vegetable plots.

Farmers on the irrigation schemes were asked where they would work if they had to choose between working on irrigated crops or tending to maize. The male respondents all reported they would choose to work on the irrigation scheme. Their wives work both on the scheme and in the maize fields. In one case, a man with a plot at Magwanyane has two wives, one who works on the irrigation scheme and another who has responsibility for maize production. The women respondents were more likely to report problems in managing both the irrigated crops and dryland production. Three of the seven women stated they would choose to work at the scheme due to the availability of water. The other four women reported they had labor problems during the maize season and often hired people to help them either at the homestead or on the scheme. Thus, during the maize season, women working on irrigation schemes either as plot holders or wives of plot holders have increased labor responsibilities and management problems. The conflict between providing labor for irrigated crops and maize was a problem for the women in particular.

Differences in labor for agricultural operations occur between women in simple nuclear homesteads, extended family homesteads, and polygamous homesteads. Case studies will be used to illustrate the use of agricultural labor in the various types of homestead organizations since the small sample size negates the possibility of a statistical comparison of homestead types.

The majority (59 percent) of the homesteads in the present study were simple nuclear homesteads. A woman on the Lubombo Plateau lives in a homestead with her five children while her husband works in a South African

mine. She produces the family food supply through her own labor, since the children are at school or too young to assist her. Her husband sends money to her which she uses to hire an oxen planter, purchase agricultural inputs, and at times to hire people to help with weeding. If there is adequate rainfall, she grows sufficient maize for her family. Otherwise, she must purchase maize. Her main problem is lack of labor.

Another woman residing in a nuclear homestead with an absent husband has coped with her labor shortage through forming a work group with women from four other homesteads. Residing in the low veld, these women produce both cotton and maize, although rarely do they produce sufficient maize for annual homestead consumption. The women plant, weed and harvest together moving from homestead to homestead. In addition, the women hire laborers to assist in cotton harvesting.

A third type of situation in a nuclear homestead is the presence and participation of the homestead head in agricultural activities. On a homestead in Lubombo, a husband and wife both work as full-time farmers and are able to regularly produce a surplus which can be easily sold to homesteads in the low veld. The head is in his fifties and has returned from years in the mines to work as a farmer. Labor is not a problem and profit from surplus provides income to purchase inputs.

The extended family homestead usually consists of the head, his wife, their adult sons, daughters-in-law, and children. In the case where the homestead head has died, either the grandmother (gogo) or her eldest son assumes leadership. In one extended homestead in Central RDA, gogo is the homestead head with two adult married sons and their wives, two adult unmarried daughters, and nine young children. The women perform the

agricultural labor together, however they do not have adequate land to produce sufficient maize. Money from agricultural inputs comes from the sons' wages. Their major constraint in agriculture is a shortage of land. They have joined the women's cooperative in an attempt to gain access to additional land. On the extended homesteads, labor is frequently not problematic and cash is available since several members often work for wage employment.

Polygamous marriages assume several forms which may effect the women's work in agriculture. In some instances, the wives of a man reside on the same homestead while in other cases men maintain separate homesteads for their wives. Polygamous homesteads may also contain extended families, with adult married sons and their wives present. Lipset (1977) suggests that in cases of male migration, wives in polygamous homesteads often cooperate as a means to survival.

In a polygamous homestead on the Lubombo plateau, two wives and their children are residents, while the homestead head works in the mines in South Africa. The wives farm, cook, and raise children together. The major constraint which these women face is limited land.

Polygamous marriages in which the man maintains separate homesteads for his wives rarely provides the opportunity for the women to work together. This type of situation illustrates clearly that women and their children do not necessarily reap the rewards of their work. In one case, a man maintained separate homesteads for two wives. He resided primarily in one homestead, but the wife in the other homestead produced maize for both homesteads. He was employed and distributed earnings between both

families. Although the woman was able to produce an agricultural surplus, her husband used the surplus maize to feed his other wife and her family. In another case, a man who had a plot on the Magwanyane irrigation scheme, married another woman when he attained the plot. He then had one wife to perform maize cultivation and another to assist him on his irrigated plot. Women's increased productivity may enable their husbands to obtain another wife. In sum, the organization of the homestead often defines the labor demands of women and the extent they will benefit from their labor.

#### Agricultural Decision-Making

Successful on-farm demonstrations and the adoption of a cash-cropping economic system on small Swazi farms shall require both a change in farming behavior and a substantial commitment of time and labor by the Swazi farmer. Further, each homestead participating in such an endeavor must make a series of decisions on financial allocations, labor distribution, marketing strategies and cash investments. Certainly, the degree to which farmers engage in cash-cropping activities will be related to changes in homestead agricultural practices. All changes in agricultural production will involve a series of decisions.

In order for the Cropping Systems Research and Extension Training Project Team to successfully integrate Swazi women farmers into project activities, an understanding of the homestead decision-making structure is imperative. If, for example, the homestead head has responsibility for all major homestead decisions, it would be necessary to involve both the woman farmer and homestead head in project planning and implementation.

Alternatively, when women participate and/or control agricultural decisions, it is critical that they become involved in project planning and implementation.

Studies of decision-making processes are both confusing and complex. Often individuals are unaware of how decisions are made within their household or homestead. They know how decisions should be arrived at, or how they would prefer that they were made, but typically the actual decision-making process is not recognized. Furthermore, respondents tend to favor themselves when responding to queries on decision making. This is, of course, understandable as the ability to make household decision implies that a certain amount of status and prestige has been achieved by an individual.

Many levels of decisions are required in agriculture. Primary decisions, or policy discussions may always require the judgment of the household head and/or collective agreement of household members. Minor or day-to-day decisions may be made by the individual carrying out the majority of farm labor, without the consultation of other individuals on the farm. Additionally, there is some question as to whether routine agricultural activities require that decisions be made at all. Bond's (1977) study of women in agriculture in Botswana concludes that it is debatable whether there is an actual decision-making process for routine seasonal activities, it being common to hear people say "we plough when the time is right, after the rains."

There is a considerable amount of controversy surrounding male and female roles in decision making in Swaziland. According to tradition,

the man as head of homestead or household has responsibility for all major decisions made within his family unit. As head of homestead he has primary control over all homestead decisions; as a head of household, his control over decision making is limited to his wife(ves) and children.

Nxumalo's (1979) survey indicated that decisions about agriculture, livestock and other farm requirements are reserved for the husband, or head of homestead, who may be absent when specific difficulties arise. Sibisi (1979) suggests that a male homestead head, generally "coordinates and supervises the agricultural activities of the homestead and can make decisions (if not final decisions) about what is to be done."

It is quite possible, however, that women have and perhaps, have always had a considerable influence over decisions which affect the homestead or household. A recent survey of farm decision-making in Africa and Latin America suggests that women maintain a significant influence in all areas of agricultural production (Mechelwait et al., 1976). Naswin Tababian, in her study on Swazi Women's Income Generating Activities, found that control over household/homestead decision-making may well be changing. She states "In fact, today it seems that in most cases these women have more, or at least as much influence on the family decisions as their husbands" (1983:15). Russell (1983a) claims that influence in decision making varies depending upon the situation. Decisions regarding agricultural cultivation which require the cooperative labor of all homestead members are usually made collectively. Often the head of homestead confers with his wife or wives or defers to the recommendations of his mother. Decisions to purchase and apply agricultural inputs such as fertilizer and seed are frequently made

exclusively by homestead members who have both the cash and the access to purchase these items. Russell (1983a) adds, however, that although individuals may control the purchase or inputs they must rely upon the labor of homestead-based members. Control over homestead agricultural decisions is most likely dispersed.

Authority over homestead decision-making also varies according to the status and power of homestead members. Although a homestead head may exert primary control over homestead activities, his mother retains considerable status and may therefore be consulted and deferred to when important decisions are to be made. The homestead head's mother (gogo) has authority over all of his wives and each wife have differentiated amounts of power and authority within the homestead. Consequently, Swazi women may have very different types of influence on decision making depending upon their particular position within the homestead.

Generally, women may be gaining more authority over decision making as a result of economic necessity. Economic circumstances have resulted in increasing male migration. This situation in Swaziland and in other parts of Africa has resulted in increasing numbers of real or de-facto women-headed households where women bear primary responsibility for all agricultural decisions (AID/WID, 1974:150).

Elizabeth Gordon's (1981) analysis of the impact of labor migration on women in Lesotho complicates the decision-making issue even further. Seventy-four percent of women included in her survey had primary responsibility for agriculture and livestock in their husband's absence. Although women had the responsibility for day-to-day agricultural decisions and

activities, long-range decisions were probably made by the man. Furthermore, decisions in the absence of a male are often made according to instructions left by the husband

Similarly, deVletter's recent study, Labour Migration and Rural Development in Swaziland, concludes that women's traditional submissive role in agriculture may be changing. He found that more than one-quarter of homesteads were "supervised" by a female in the absence of their husband. Furthermore, he states, "Although homestead heads, even in their absence, are likely to make the final decision about cropping patterns, the traditional division of labor has been disrupted and women may soon dominate all agricultural activities" (1981:20).

Homestead decision-making is both complex and controversial. Nevertheless it is an issue that cannot be ignored or dismissed when planning and implementing agricultural development programs. When women participate or control agricultural decision-making and manage some or all aspects of production they must be consulted and integrated into development strategies if these programs are to succeed.

For the purposes of this pilot study we were specifically interested in two areas of decision making and control: agricultural decision-making and control of resources for agricultural and household expenses. First respondents were asked who paid for agricultural inputs such as fertilizer, tractor hire and so forth. Secondly, respondents were asked who made agricultural decisions within that particular household or homestead. In both instances distinctions were made between subsistence and cash crops (e.g., maize as opposed to cotton); and dryland and irrigated agriculture.

The division between types of agricultural production was drawn because decisions and expenditures are not always consistent in homestead agriculture. For example, the homestead head may pay for all inputs required for maize while his wife pays for inputs in horticultural production. Similarly, a man may engage in tobacco production with his brother but produces maize with his wife.

Finally, because of the high incidence of absentee males, respondents were asked who assumed responsibility for agricultural decisions when the homestead head was absent.

Thirteen of 41 respondents stated that the male head of household or homestead made decisions, 15 respondents stated that wives or female head of homestead made decisions and 13 claimed that agricultural decisions were made jointly between male and female homestead members (primarily homestead head and his wife(ves)).

Respondents tended to favor their own sex when discussing control over decision making. In other words, almost all male respondents (12) claimed that they had responsibility for agricultural decisions and/or conferred with their wife(ves) or mothers. Similarly female respondents suggested that they, themselves, made agricultural decisions or had joint decision-making responsibility with their husbands. Grandmothers also reported control over decisions. The following table provides the distributions of responses by sex of respondent (Table 3). Only one female respondent claimed that her husband maintained control over decisions made on agriculture. Responses from women farmers were almost equally distributed between female control over decision making and joint male and female control over decision making. Male respondents tend to claim

Table 3. Decision Making on Agriculture by Sex of Respondent.

	Male (N=12)	Female (N=29)
	-----Percent-----	
Male homestead - household head	75.0	3.5
Female - head of homestead/ household	8.3	48.2
Both male and female	16.7	48.3

individual control over decision making much more frequently than female respondents. Only 8 percent of our male respondents compared to 48 percent of the women stated that decisions were made jointly. One respondent claimed his wives made agricultural decisions, but he was usually away in South Africa.

Male control over decision making is directly related to time spent residing at the homestead. Exclusive male decision-making control within this small sample, occurs only when males are residing at the homestead on a daily basis. Table 4 illustrates the distribution of decision making as it relates to homestead residence. Table 4 also illustrates that female control of decision making increases when the length of male residence at the homestead decreases. Females obtain almost exclusive control over decisions made in agriculture when males remain away from the homestead for more than a month at a time. These results, although not conclusive, tend to agree with larger, more extensive works on the effects of male migration (see for example deVletter, 1982).

Table 4. Decision Making in Agriculture and Frequency of Male(s) Residing at Homestead.

Decision Maker(s)	Daily (N=19)	Weekly (N=9)	Monthly (N=6)	Yearly (N=3)	Deceased or Never (N=4)
-----Percent-----					
Male homestead/ household head	47.3				
Female/wife of head of homestead/ household	10.5	11.1	100	100	100
Both decide	42.2	88.9			

When asked who made agricultural decisions in the absence of the homestead head, 27 of 41 respondents (65.8 percent) who answered this question, claimed that women most often made these decisions for the homestead. Twenty-five respondents claimed that wives made decisions while two stated that gogo had this responsibility. Eleven respondents (26.8 percent of sample) claimed that the homestead head is never absent. One woman whose husband was deceased said that during her absence her son took over the responsibilities of head of homestead and made all agricultural decisions (in addition to others). Two respondents were not specific about decision-making authority, and suggested that either wives or children made decisions when the homestead head was away.

Control over decision making also seems to be influenced by control over cash resources for agricultural inputs, as illustrated in Table 5. When males pay for agricultural inputs, females apparently still maintain a considerable amount of decision-making control. Twenty-five percent of

Table 5. Agricultural Decision-Making and Individual Paying for Agricultural Inputs.

	Male Pays for Inputs (N=28)	Female Pays for Inputs (N=9)	Both Pay for Inputs (N=2)	Other Days for Inputs (N=2)
	-----Percent-----			
Male homestead/ household head	32.2			50
Female - wife or homestead/household head decides	24.9	66.7		50
Both decide	42.9	33.3	100	

respondents who claim that males pay for all agricultural inputs stated that females retained primary control over decision making, while 43 percent of respondents claimed that male and females made decisions jointly when males paid for inputs. Thirty-two percent of respondents who claimed that males paid for agricultural inputs, note that men have exclusive control over decisions made.

According to our respondents, when females control the resources for agricultural inputs, they retain significant control over decision making. None of the respondents who stated that women paid for agricultural inputs claimed that males made decisions. All respondents in this category were females. Six of the eight respondents who stated that women paid for agricultural inputs claimed that they also made all agricultural decisions. Three respondents claimed that females paid for inputs but agricultural decisions were made by both men and women jointly.

### Control of Cash Resources for Agricultural Inputs

Although both men and women often share responsibilities for homestead decision-making, males are predominantly responsible for purchasing agricultural inputs and other homestead necessities. Barnes (1979) states that: "Rural women are disadvantaged in their access to agricultural inputs and services and yet they tend to be more educated than their resident male community members." More men purchase agricultural inputs and hire agricultural equipment than women. Women simply have less access to cash.

In the present study, agricultural inputs and equipment are paid for exclusively by male homestead/household heads on 55 percent of homesteads. Male contribution to agricultural expenditures increases to 70 percent when cash contributions to agriculture include all male homestead members (sons and brothers particularly). Table 6 provides the distribution of responses concerning cash contributions by sex of respondent.

Women contribute to financing agricultural inputs, including profits from cash crops, handicrafts and wage labor on approximately 20 percent of farms. This is not surprising, however, as females have limited access to wage employment. Women who received a cash income from marketing handicrafts, beer, livestock and agricultural produce tended to pay for school fees, food and other pressing homestead needs and as well as contributing to agricultural inputs. Further, males typically retain control over their wives' earnings from agriculture as evidenced by one respondent who claimed "I bring the money I earn from farming to my husband. He decides how to spend it."

Table 6. Individual Paying for Agricultural Inputs by Sex of Respondent.

	Male (N=12)	Female (N=28)	Total (N=40)
	-----Percent-----		
Male head of homestead/ household	83.3	42.8	55
Wife or female head of homestead/household		28.5	20
Both		7.1	5
Sons/brothers	8.3	14.3	12.5
Head and children exchange	8.4	7.2	2.5

Women's restricted access to cash may in fact have a detrimental impact on agricultural production in Swaziland. As a recent study in the Northern Rural Development Area states:

If the decisions on expenditures were left to women, many would use extra cash income for investing in agriculture. Agriculture is the only expenditure mentioned which can be considered an investment able to generate further cash through sale of produce. However, the decisions on investments in agriculture depend on the head of household who, if a man, apparently will tend to give low priority to such investments (Andrehn et al., 1977:xxv).

#### Decision Making and Control of Resources by Region

Responses obtained from interviews in Magwanyane provided the same trend in decision making as the collective sample. Two of our respondents stated that decisions were made by homestead heads, two said that agricultural decisions were made by women and two of the respondents claimed that decisions were arrived at collectively. Women who claimed to have

control over decision making also had responsibility for agricultural expenses. Similarly, male respondents who claimed exclusive decision-making rights, from Magwanyane also paid for all agricultural inputs. Table 7 provides distribution on decision making by region of respondent.

In Kalanga, decision making is a more complicated issue, because a distinction is drawn between the authority over dryland agriculture and irrigated plots. Two respondents (male) stated that they paid for agricultural inputs on dryland and irrigated plots and made all agricultural decisions. When women control agricultural expenditures, they do not always have control over decision making. Two of the respondents, who were women, paid for expenses on the irrigated plots and retained authority for decision making on the scheme. These same respondents stated, however, that their husbands made all decisions about homestead (dryland) agriculture, whether or not these women paid agricultural expenses for maize cultivation. Twenty percent of the Kalanga respondents stated that decisions were made on dryland and irrigated agriculture with the husband although inputs were purchased by the respondents.

In Mpolonjeni decision making is the responsibility of both men and women according to one-half of our respondents. However, one of these respondents, stated that he and his wife "talk things over, but then I usually decide." Another respondent stated that decision-making authority is split within their homestead depending upon the type of agriculture. Her husband paid for all agricultural inputs, but only made decisions concerning maize cultivation. She, on the other hand, had decided to grow cotton and made all subsequent decisions concerning that crop. Two respondents in Mpolonjeni stated that homestead heads (or husbands) made all

Table 7. Decision Making by Region of Respondent.

	Magwanyane (N=6)	Kalanga (N=15)	Mpolonjeni (N=12)	Lubombo (N=13)	Central (N=29)
	-----Percent-----				
Male homestead - household head	33	40	33	23	--
Wife or female head of homestead/household	33	40	17	55	27
Both	33	20	50	27	13

decisions on agriculture. Each male respondent claiming this authority, also stated that they provided the necessary cash for agricultural inputs. Only one respondent stated that she made all agricultural decisions. Although the homestead head and her children sent money for all agricultural inputs, she made all decisions.

In Lubombo, seven of the women respondents, or 54 percent, of our sample in that area claimed that they made major agricultural decisions. It is important to note that four of these women stated that the homestead head was away working while in two cases the homestead head was deceased. Two male respondents or 13 percent of the Lubombo respondents stated that they paid for agricultural inputs and made all decisions without consultations with their wives. Twenty-three percent of respondents from Lubombo claimed that although males purchased agricultural inputs, decisions were made by wives. Finally, 7 percent of the Lubombo respondents suggested that although homestead agriculture was discussed by both husband and wife, the husband was normally responsible for making final decisions.

The majority of our respondents (seven) in Central Rural Development Areas, stated that agricultural decisions were arrived at jointly by both husband and wife(ves). Two of the women interviewed in the cooperative, claimed that they paid agricultural expenses and had responsibility for making all decisions. One woman stated that the homestead head paid for agricultural expenses, but she maintained the right to make all decisions concerning agricultural production. In this case, the homestead head was living in another homestead with his second wife. It might be inferred that her autonomy and authority was obtained through his absence. Actually,

this same woman, stated emphatically that when she required funds for school fees, agricultural inputs and so forth, she told her husband what money was needed and insisted that he sell a cow to cover expenses. In fact, she maintained that she made the decision to sell the cattle. As in the case of Kalanga and Mpolonjeni, control over decision making sometimes depends on the crop cultivated. One respondent stated that her husband paid for all agricultural inputs and made decisions concerning maize cultivation. She had decided to grow vegetables with the cooperative and made all decisions and expenses regarding irrigated agriculture.

#### Access to Information

A major thrust of the MOAC programs generally and the Swaziland CST specifically is to provide agricultural extension services to Swazi farmers in an effort to improve and increase agricultural production. The extension training component of the Cropping Systems project is designed to provide extension personnel with sufficient training and information so that Swazi small farmers directly benefit. Emphasis on intercropping, multicropping research, and on-farm demonstrations is expected to improve the farmers' productivity and enhance the economic viability of cash cropping (USAID, 1981).

The relationship between the successful dissemination of agricultural advice by the extension services and the adoption of advanced agricultural practices by Swazi farmers has been demonstrated by deVletter (1979). Farmers who receive advice from extension personnel are more likely to adopt advanced agricultural methods such as the application of fertilizer, pesticide use and crop rotation. The availability of agricultural extension

assistance varies markedly by subeconomic region, type of farming, commitment and success of farming, and sex of the farmer. Farmers in the RDA's tend to receive more extension advice than non-RDA farmers. Further, it has been suggested that farmers in the cotton-growing areas receive more extension advice than farmers who concentrate on maize cultivation (deVletter, 1979).

Male farmers tend to receive more agricultural advice from extension agents than female farmers. In fact, the CST project paper states, "Female farmers are visited less by extension agents than male farmers and those visited have fewer total contacts with agents than is the case of males" (USAID, 1981).

A study conducted on the status of women in the Northern Rural Development Area has shown that most women farmers were unaware of the services that agricultural extension workers should be able to provide (Andrehn et al., 1977). Further, although two-thirds of the women interviewed in Andrehn's study expressed a desire to learn more about agriculture, these farmers did not know anyone who could advise them.

Magagula states that women participate less in RDA programs and have less access to the services provided by the RDA administration primarily because "most extension agencies of the government and the field staff responsible for the delivery of services are still both male-dominated and male-oriented in approach" (1978:308). Barnes (1979) claims that women are visited less by agricultural extension agents because it is inappropriate in Swazi culture for male strangers to visit females on the homestead when men are not present. Male predominance in the agricultural extension service may severely limit the access of women farmers to agricultural

advice, particularly in areas with a high incidence of male migration. Additionally, extension agents may be reluctant to deal with women as it is commonly perceived that married women have little or no control over decisions and resources to make major changes or improvements in agricultural production (Andrehn et al., 1977). Extension agents may simply assume that endeavors toward agricultural development may be more effective when directed towards men, as they maintain control over important resources.

MOAC and CSRET efforts to increase agricultural extension services for women include increasing the number of women extension agents and integrating women into agricultural development projects, such as the Cropping Systems Research and Extension Training Project. Currently, about 85 percent of agricultural extension agents are men. A goal of the CSRET project is to insure that at least 20 percent of extension agents who participate in training will be women.

To assess the incidence of consultation with extension personnel among the respondents in this study, several questions were included in the questionnaire to obtain data on access to both agricultural and home economic extension agents, and the use of extension information.

First farmers were asked where they received agricultural information. Secondly, respondents were questioned on the frequency of visits or meetings with extension agents and whether or not they perceived this amount to be sufficient for their informational needs. These questions specified contact with both agricultural and home economic extension agents as both may provide agricultural information. If respondents consulted with extension agents, we asked what information had been provided and if they had utilized this information. Further, respondents were questioned about their

current agricultural practices to ascertain whether respondents were utilizing advanced agricultural methods.

Twenty-six of the 42 respondents interviewed claimed to have received agricultural advice from extension agents. When disaggregated by sex, 9 of the 12 men (75 percent) interviewed stated that they received agricultural information from agricultural extension agents while 17 of the 30 women (57 percent) interviewed obtained agricultural information from that source (Table 8).

Farmers who did not obtain agricultural advice from the extension services, tended to rely on on-farm expertise or the assistance of other farmers. Fifteen of the 42 individuals interviewed claimed to have consulted with extension personnel on a regular basis. For the purposes of analysis "regular contact" is defined as at least once a month or whenever farmers perceived they needed assistance (Table 9). Four respondents stated that contact with extension personnel was limited to meetings or field days, while three respondents noted that agricultural extension officers were only available during the ploughing and planting season. Three respondents stated that they did not have enough contact, while 13 individuals interviewed stated that they never met with extension officers.

Frequency on consultation with agricultural extension officers may be dependent upon the sex of the farmer. Men in the sample areas tended to consult with farmers more frequently than women. Further, women farmers interviewed in the study were more likely to report that they saw extension agents very rarely or not at all (Table 9).

Respondents tended to favor their own gender when asked which individual from the homestead consulted with the agricultural extension officer. The majority of male respondents claimed that homestead males, most often the

Table 8. Source of Agricultural Information by Sex of Respondent.

	Male	Female	Total
	-----Percent-----		
Agricultural extension	75 (9)	57 (17)	62 (26)
Other farmers	8 (1)	17 (5)	14 (6)
Themselves (Family members)	8 (1)	23 (7)	19 (8)
Prison	8 (1)		2 (1)
No land (can't farm)		3 (1)	
-----			
Total number	12	30	42

homestead head, obtained agricultural advice from the extension officers. Similarly, female respondents stated that women most frequently consulted with the extension officers. In short, respondents tended to favor themselves when responding to this question. More women than men report contact with extension agents at meetings or field days, while men report more individual contact (Table 10).

The majority of males and females who claimed to receive agricultural advice from the extension services, stated that they utilized the information. It is not always possible for respondents to follow the extension officer advice. For example, two respondents claimed that their contact with the officer was too late to utilize the recommendations during the past agricultural season. One male and one female stated that they could not afford to implement the officers recommendations. Table 11 illustrates the frequency of men and women farmers implementing agricultural advice.

Table 9. Frequency of Consultation With Agricultural Extension Personnel by Sex of Respondent.

	Males (N=12)	Females (N=30)
	-----Percent-----	
Regularly	58.3	26.7
Occasionally	8.3	20.0
Rarely or never	25.0	46.7
Don't know	8.4	6.6
Total	100.0	100.0

Table 10. Consultation With Agricultural Extension Officer by Sex of Respondent.

	Male (N=9)	Female (N=17)	Total
	-----Percent-----		
Male at homestead	44	0	15.3
Female at homestead	11	35	27
Either male or female at homestead	11	6	8
Male at cooperative/meeting	23	0	8
Female at cooperative meeting	0	53	35
Either at cooperative/meeting	11	6	7

Table 11. Utilization of Agricultural Advice from Extension Agent by Sex of Respondent.

	Male (N=9)	Female (N=18)	Total
	-----Percent-----		
Implemented advice	78	67	70
Tried to implement advice	11	22	19
Couldn't implement advice	11	11	11

### The Impact of Extension Services

It is, of course, very difficult to evaluate the impact of extension services upon agricultural productivity. Farmers who received agricultural advice from extension personnel, may well be using hybrid seed, applying fertilizer and utilizing advanced techniques, without realizing a surplus crop in maize. Alternatively, farmers may not receive extension assistance but produce an abundance of maize.

The ability to produce a surplus depends on the weather, farming practices, and adequate land, labor, and cash. Another factor in the production of a surplus crop is the number of homestead members who shall consume agricultural produce. As Sibisi (1981) notes, many Swazi farmers have the ability to produce a surplus but lack the incentive due to low prices obtained on the market. This study does not attempt to investigate the direct impact of the effects of agricultural extension assistance on farmer behavior. However, we were interested in obtaining data on the incidence of farmers utilizing advanced farming methods and the incidence of surplus and cash-crop production and the incidence of extension consultation. The results are provided in Table 12.

Table 12. Access to Extension, Input Use, Surplus Production by Sex of Respondent.

	Female (N=30)	Male (N=12)
	-----Percent-----	
Saw agricultural extension officer	57	75
Used hybrid maize seed	73	92
Used advanced methods (i.e., chemical fertilizer, pesticides, etc.)	80	83
Produced surplus/cash crop	50	83

A majority of our respondents were using hybrid seed and utilizing advanced techniques (primarily the application of chemical fertilizers). A greater proportion of male than female respondents were able to realize a surplus in maize or were engaged in cash cropping. Moreover, a greater proportion of males were using hybrid maize. Male and female farmers interviewed in this study, exhibited comparable frequencies of utilizing advanced methods and inputs (other than seed use), although men were more likely to produce a surplus.

#### Access to Agricultural Extension by Region

As seen in Table 13, irrigation scheme members received by far the most attention from extension agents compared to farmers in other regions. In fact, 100 percent of irrigation scheme members interviewed stated that they received information from agricultural extension personnel. Further,

Table 13. Percent of Males and Females With Access to Agricultural Extension by Region.

	Male (N=12)	Female (N=30)	Total
	-----Percent-----		
Magwanyane	100	100	100
Kalanga	100	100	100
Mpolonjeni	67	33	50
Lubombo	50	33	38
Central RDA	--	58	58

five of the six farmers interviewed in Magwanyane stated that they consulted with the agricultural extension officer on a regular basis (Table 14). One respondent stated, however, that she did not feel that she met with the agricultural extension agent enough. Four of the five respondents interviewed on the Kalanga irrigation scheme stated that they had regular meetings with the extension officer. The remaining respondent claimed that he didn't know how often he saw the agricultural extension officer but he felt this officer was readily available. As indicated in Table 13, agricultural extension was equally accessible to both male and female members interviewed on the irrigation schemes. All irrigation scheme farmers interviewed utilized hybrid seeds and advanced inputs and managed to produce cash crops.

On interviews conducted on homesteads in Mpolonjeni, we found that three of our six respondents had meetings with the agricultural extension officer. Two of the three male respondents claimed to have consulted with agricultural extension personnel, while one of three women interviewed had

Table 14. Frequency of Consultation with Agricultural Extension Officers by Region and Sex of Respondent.

	Magwanyane		Kalanga		Mpolonjeni		Lubombo		CRDA F	Total
	M	F	M	F	M	F	M	F		
Regularly or when needed	3	1	1	2	2		1		2	12
Weekly		1		1						2
Monthly									1	1
Only at meetings						1			3	4
Only during plowing and planting							1	2		3
Not enough		1							2	3
Never					1	2	2	6	3	14
Didn't know			1					1	1	3
Total	3	3	2	3	3	3	4	9	12	42

seen the officer. Male respondents seemed to have regular consultations with the officer. The female respondent who claimed to receive agricultural advice from extension personnel, said she had only received assistance at field meetings, and those were held irregularly (Table 14). None of the farmers interviewed in Mpolonjeni had produced a surplus maize crop, due primarily to the climate and the drought. All three women interviewed, however, were growing cotton for sale, utilizing chemical fertilizers and pesticides for that crop. Two of three males interviewed in Mpolonjeni were using hybrid maize seed, using modern inputs, and producing a cash crop (one cotton, one tomatoes).

Farmers in Lubombo interviewed for the present study did not appear to be receiving a great deal of assistance from agricultural extension officers. Five of 13 farmers interviewed claimed to have received advice from agricultural extension officers. Only one of the four males interviewed had consulted with the agricultural extension officer with any regularity. None of the women farmers interviewed had consulted with an agricultural extension officer on a regular basis. In fact, six of nine women interviewed in Lubombo stated they had never been in contact with agricultural extension personnel. Two female respondents stated they only saw the agricultural extension officer during the planting season and the remaining female respondent claimed she didn't know when she had last seen the officer. All male and female farmers who received agricultural assistance in Lubombo, were using hybrid maize seeds, applying chemical fertilizer and producing a surplus of maize.

Seven of the 12 members (58 percent) interviewed in the women's cooperative in CRDA, suggested that they received agricultural information

from the agricultural extension officer. Of the seven members who stated that they received agricultural assistance from agricultural extension personnel, four respondents claimed that their contact with this officer has been restricted to cooperative involvement. Cooperative membership has increased the access to agricultural extension personnel for some members.

In the women's cooperative in CRDA, the farmers interviewed showed a comparatively high utilization of advanced farming techniques. Ten of 12 women used hybrid seeds and nine women applied chemical fertilizers. The utilization of hybrid seed and chemical inputs is greater than any other region included in the present study. It is possible that this farming behavior is a result of cooperative involvement, however, this relationship has not been established in this research.

The three respondents in CRDA who consulted with the agricultural extension officer on a regular basis prior to the establishment of the cooperative, all utilized, hybrid seeds, chemical fertilizer and produced a surplus maize crop. It is of course difficult to ascertain whether the respondent's frequent consultation with the officer had an effect on farming practices or whether these individuals were progressive farmers who produced a surplus without extension assistance. Further, these individuals seemed to have responsibility for other cooperative members' adoption of "modern" farming methods. Because the sample size is small, it is difficult to obtain valid results when the data is separated by region and then further disaggregated by sex. While admittedly these results are inconclusive - the access to information varied according to the sex of the farmer.

Table 15. Percent of Homesteads Consulting With Home Economist by Region.

	Consulting --Percent--
Magwanyane	33.3
Kalanga	100.0
Mpolonjeni	0
Lubombo	7.7
Central	91.6

#### The Role of the Home Economist

Eighteen of the 42 respondents (42.8 percent) interviewed in the present study stated that they or their wives had consulted with a home economist. Table 16 illustrates the distribution of responses by sex and region. Respondents in the CRDA and on the Kalanga irrigation scheme had the highest incidence of consultation with a home economist. All respondents interviewed on the Kalanga scheme had met with the home economist (or their wives had). Eleven of the 12 CRDA respondents from the women's cooperative had contact with the home economist officer. The high rate of consultation with the members of the CRDA women's cooperative was expected, however, as this officer was instrumental in the establishment of the cooperative and subsequent activities.

The Lubombo-Mpolonjeni region received less assistance from home economists than any other region included in this pilot study. In fact, one respondent in Lubombo claimed the home economist had not been seen since 1979. Access to agricultural extension personnel was also relatively

Table 16. Type of Information Received from Home Economist by Region.

	Agriculture	Handicrafts	Cooking	Didn't Specify
	-----Percent-----			
Magwanyane	100			
Kalanga	40	20	20	20
Mpolonjeni	--	--	--	--
Lubombo	100			
CRDA	54	36	--	9
-----				
Total information	55	28	5	12

limited in this area. It is possible (although not adequately explored in this limited study) that extension services in Lubombo-Mpolonjeni are limited, with the exception of irrigation schemes. Only one respondent on Magwanyane claimed to have had contact with a home economist. This respondent claimed that his wife had received agricultural and nutritional information which was utilized on their horticultural plot.

Home economics staff are responsible for the dissemination of a range of information, including agricultural and nutritional information. We questioned respondents on the type of information received from the home economist. Table 16 provides the type of information received by region of respondent. The majority of respondents claimed that they were receiving agricultural/nutritional advice from a home economist. Ten of 18 respondents who consulted with a home economics officer stated they received information on methods to establish and manage a home consumption vegetable

garden. Five of the 18 respondents receiving information from a home economist, received instruction on producing handicrafts for home use and sale. One respondent received information on cooking, while two respondents couldn't or wouldn't specify what information had been received from the home economist.

### Marketing

The marketing of agricultural produce may well constitute the greatest constraint toward successful adoption of a cash-cropping agricultural economy. At the inception of the Cropping Systems Research and Extension Training Project it was clear to the team that the existing marketing system in Swaziland might be unable to absorb an increase in commercial production (USAID, 1981). However, it was assumed that marketing strategies adopted by the government in Swaziland and several international donors would alleviate marketing difficulties. As this marketing project was not implemented when the present researchers were undertaking this study, it is difficult to assess the potential impact of this marketing project. Nevertheless, marketing problems in Swaziland are clearly more complex and serious than the inability of existing marketing systems to absorb increased commercial production.

Surplus producers of maize have a limited number of alternatives when marketing their produce. They may sell to the Swazi Milling Company or they may sell to their neighbors. Sibisi's (1981) study of keen farmers provides many examples of farmers' frustrations when selling maize to the SMC, including unreasonably low purchase prices and seemingly arbitrarily

imposed standards and restrictions on the quality and quantity of maize purchased.

Selling maize to neighbors is not generally viewed as a very satisfactory alternative, although Russell's (1982) study shows that some farmers prefer this option to SMC. Those who prefer to sell to their neighbors usually select this option to avoid the expense and problem of obtaining transportation to market surplus maize elsewhere.

Problems in marketing maize to neighbors and friends include the inabilities of farmers to sell large quantities of surplus maize and the uncertainty that an adequate profit shall be realized. Russell's respondents claimed that friends and neighbors frequently request discounts on maize purchases and purchase such small quantities that often much of the maize spoils before it is sold. Additionally, when surplus maize production is achieved for one farmer in a region, other farmers often also produced surplus maize in the same area. As one farmer in Lubombo claimed "We sell to the SMC, it is impossible to sell maize here. When I have a surplus, all farmers in Lubombo have a surplus."

Vegetable production is also severely hampered by marketing constraints. Farmers who produce vegetables on a small scale may sell to neighbors satisfactorily, particularly, if vegetable production is limited in that particular area. Nonetheless, farmers engaged in horticulture frequently have limited access to water and must expend extraordinary amounts of time and energy to collect water for their crops. Additionally, expenses for fertilizers and pesticides require that farmers obtain sufficient yields and profits from sales to continue in vegetable production.

Farmers who produce vegetables for sale on a larger scale, as in the irrigation schemes, also experience difficulties in marketing crops. As Carloni states, "The project preparation team argues that scheme farmers would grow more vegetables if they were assured a market. Farmers on the other hand expressed a willingness to grow only if the price is right. Right now, vegetable growers are vulnerable to exploitation by buyers because their produce is highly perishable and they have no way of transporting it to market. They must wait for buyers to come to the scheme. Produce is marketed individually and producers have little bargaining power" (1982:14).

Vegetable producers interviewed in the present study, expressed similar concerns. All irrigation scheme farmers claimed that they simply waited for buyers to come to the scheme. They stated that although this was a very unsatisfactory marketing strategy, their lack of transportation left no other alternative. Six of 12 respondents interviewed at the schemes claimed that their vegetables frequently rotted before buyers came to the scheme, which had caused them substantial financial loss.

In Magwanyane, half of our respondents claimed that they previously had an arrangement with the Swazi Central Cooperative Union (CCU) to market their vegetables. Respondents stated, however, that the CCU had cheated them by paying insultingly low prices for their produce, and connections with CCU had been subsequently severed. Carloni's report on a credit and marketing project notes that irrigation scheme farmers had frequently experienced problems with the CCU because of their "low prices, unreliable collection and considerable delays in paying for produce" (1982:15).

Discussions with the CSR horticulturalist and others working in vegetable production have provided further illustrations of existing marketing difficulties. Frequently, farmers on irrigation schemes grow precisely the same type of vegetables, thus exceeding buyer demand and lowering the purchase price of vegetables. Further, when difficulties occur with vegetables (i.e., disease, frost, and so forth) all farmers suffer similar losses due to the consistency of type of crop grown. It is interesting that farmers interviewed in this study did not perceive lack of diversity in crop production as a contributing factor toward marketing difficulties. It should be pointed out, however, that respondents were never questioned on this as a specific potential difficulty. Farmers were simply asked how crops were marketed and if they had experienced any difficulties in their marketing endeavors.

Three farmers interviewed in the present study who grew vegetables in other areas claimed to have more success marketing their produce than scheme farmers. One farmer in Mpolonjeni, several miles from the irrigation schemes experienced no difficulties selling his tomatoes. He claimed that friends and neighbors readily purchased his produce and he was able to realize a sufficient profit.

Another respondent (also male) in Lubombo stated that his wives grew vegetables and sold to neighbors. Respondents who were producing vegetables through the women's cooperative in CRDA also sold their produce locally, although only three had produced a surplus crop. Others who expected surplus vegetables in the future claimed that they would either sell locally or in Matsapa and anticipated no problems in marketing.

Farmers who grew cotton on the irrigation schemes and in Mpolonjeni, claimed to have no difficulties marketing this crop. Marketing strategies were similar for both irrigation scheme and homestead cotton producers. Cotton was grown individually by each farmer or homestead and then transported and sold collectively by Matsapha Marketing with other farmers apparently reducing transportation costs and increasing profits. As Russell et al. (1982) claim "the attraction of cotton lies in the low risk of crop failure and the ease of marketing. For our sample, the gin at Matsapha provides a certain outlet, a guaranteed income" (p. 16).

Fourteen of our 42 respondents or 33 percent claimed to have produced a surplus crop at one time. Nine respondents claimed to have sold their maize locally while four stated that they sold maize to SMC. One respondent claimed her husband marketed the maize but she didn't know where. Six of the 14 respondents who produced a surplus of maize claimed that transportation to market was a serious constraint. Two respondents claimed that they had to market maize at SMC because an abundance of maize had been produced in their areas when they had a surplus.

Both male and female farmers in the present study appear to experience comparable difficulties in marketing. Although males may have an increased access to cash, transporting crops to market (other than cotton) is apparently above the financial reach of most of the farmers interviewed in this study. Thus, marketing may well be one area where both female and male farmers are equally constrained.

### Constraints Towards Successful Farming

A major purpose of the present exploratory study has been, of course, to identify and illustrate major constraints faced by Swazi farmers. Although the majority of the study has focused primarily on women farmers, it is also the intent of this study to present an abbreviated glimpse at the existing situation for male farmers and the constraints that they face.

While this study was specifically designed to obtain information on existing constraints by questioning respondents on their access to resources such as cash, labor, decision making and marketing, respondents were also asked what they felt their greatest constraints were as farmers. After all, often a direct question elicits the most relevant response.

When questioned about major difficulties confronted in agriculture, respondents within this small sample provided a variety of different answers. Further, most respondents claimed that they experienced more than one serious difficulty in their agricultural activities, as Table 17 illustrates.

Respondents interviewed at the irrigation schemes were primarily concerned with the frequent lack of water caused by failure of the irrigation pumps. Apparently, engine failure was frequent and protracted. This situation may well be remedied at present, as the faulty diesel pumps were being replaced by electric pumps while the present study was being conducted. Several respondents from the Kalanga irrigation scheme reported that one of their major problems was a hippopotamus who resided in the irrigation dam and engaged in midnight feasts on farmers crops. Earlier

Table 17. Constraints.

Difficulties in Farming	Frequency of Response		
	Maies	Females	Total
Failure of irrigation engines	3	4	7
Hippopotomus	1	1	2
Expense of agricultural inputs	7	12	19
Problems with obtaining credit (interest too high)	2		2
Environmental problems			
Too dry	1	4	5
Heavy rain during maize germination		1	1
Shortage of land	2	2	4
Late planting; due to:			
Timely tractor/plow hire	1	2	3
Getting seed		1	1
Pests and plant disease	1	6	7
Weeds uncontrollable		3	3
Lack of agricultural expertise		2	2
Livestock consuming crops	1	2	3

appeals to King Sobhuza had not precipitated removal of the hippo due to the King's concern for the protection of wildlife. Respondents viewed the existence of the hippo very fatalistically, and assumed that the destruction of fences and crops would continue.

As discussed previously, marketing difficulties seemed to consistently trouble irrigation scheme farmers. Another major concern of these farmers was the high cost of agricultural inputs and tractor hire. Additionally, two male scheme respondents stated that agricultural expenses seemed to cause a vicious cycle of financial strain. Inputs and tractor hire were so expensive that these respondents had to take out loans with very high interest rates that they could ill afford. Consequently, the profits received from agricultural produce seemed to be approximately equal to expenses incurred.

Approximately half of our respondents claimed that meeting the expense of agricultural inputs and tractor hire constituted their most serious constraints in agriculture. A higher proportion of male respondents (58 percent) than female respondents (31.5 percent) claimed that financing agriculture was a major difficulty. No female respondents claimed that limited access to credit was a deterrent to successful agricultural production. It may be assumed that as women have almost no access to institutional credit (without male sponsorship) that women did not perceive this to be a problem worth consideration.

Five of six farmers interviewed in Mpolonjeni claimed that their major problem was lack of rain. As this study was conducted during a severe drought, this was indeed a critical problem in this typically dry region.

Although several respondents claimed that they had difficulty in obtaining a tractor or ox-plough, it was surprising that so few respondents had experienced such problems. Informal interviews conducted previously with the CRS team in Mahlangatsha, Northern RDA and Central RDA suggested that late planting frequently occurred because tractors were unavailable when needed. It is important to stress once again that the Central RDA women's cooperative had been organized specifically to obtain timely tractor service. It may be inferred, therefore, that including the women's cooperative and the scheme farmers (who also have access to RDA services) in the present sample, has perhaps caused an unusually high incidence of timely access to the tractor services. In fact, several members on the women's cooperative claimed that they had difficulty obtaining tractor service before joining the cooperative.

Control of pests, plant disease and weeds were also mentioned as a major concern to approximately one-fourth of our respondents. Several (five) respondents stated that they had particular difficulty with cutworm and stalk borer, although these respondents had taken no steps to control the pests. Additional questioning of these female respondents, suggested that they did not have any knowledge of a means to combat the pests. The male respondent who also claimed to suffer problems with pests, stated that pesticides were very expensive and that he could not afford to purchase them. Respondents who suggested that weeds presented a serious problem in maize production seemed well aware of the detrimental effect that weeds had on their maize crops. Although the problem was apparent to these women respondents, it would seem clear that these farmers could not obtain adequate labor to weed their fields in a satisfactory manner.

## Summary

### Labor

Women provide the majority of agricultural labor on Swazi Nation Land. The traditional sexual division of labor in agriculture remains in effect with major modifications. Men continue to assume responsibility for ploughing, although they frequently meet this obligation through sending cash for tractor hire. In the absence of sufficient cash for tractor hire women frequently participate in oxen ploughing. Other agricultural tasks such as planting, weeding, harvesting and grain storage remain women's responsibility. With the continual absence of men, women frequently provide the labor for all agricultural operations.

Cash-crop production on government-supported irrigation schemes results in a different division of labor. Government tractors perform the ploughing on irrigation schemes. Individual plot holders, either women or men, are responsible for providing or hiring labor to perform the remaining agricultural tasks. Men use their wives labor and frequently hire workers. Women plot holders perform labor with the assistance of their children or hired labor. For women, the combination of irrigated crop production and maize production is often a labor burden to an already long day.

Homestead organization accounts for differences in labor availability for agricultural production. Women in nuclear families typically have less labor available than women in polygamous or extended families. However, in larger homesteads, a limiting factor is often land availability. The organization of the homestead and women's place in the homestead

define women's labor demands and the extent to which they and their children will benefit from their labor.

### Decision Making

Decision making in agriculture occurred with similar frequency between men, women, and both:

- 15 stated women made decisions;
- 13 stated men made decisions;
- 13 stated both made decisions.

Respondents in all areas tended to favor their own sex when discussing control over decision making. Males tended to report they made decisions exclusively, while females reported they either had exclusive decision-making control or made decisions jointly with their husbands. A greater proportion of female respondents than male respondents claimed that decisions were arrived at jointly with spouses.

Male control over decision making is directly related to time spent residing at the homestead. Females appear to gain increasing control over decision making when males are frequently absent from the homestead. Women most frequently make decisions, on agriculture in the absence of the head of homestead or household. Sons and grandmothers may also occasionally make decisions on agriculture when the homestead head is absent. When women make the decisions or have joint decision-making authority with their husbands/or homestead head, there are usually one of several conditions in effect:

- The woman is paying for agricultural inputs;
- The homestead head is away or deceased;
- The husband has little interest in agriculture;
- The control over decision making is crop-specific.

Males not farming full time seem to be primarily interested in homestead-based agriculture. Women who were engaged in horticulture on the irrigation schemes or in Central RDA frequently claimed that decisions concerning the horticultural plots were made exclusively by women farmers. Maize cultivation on the other hand, appears to come under the male jurisdiction in most cases. When males are engaged in farming on a full-time basis, they maintain more control over decision making in homestead agriculture. Women do not achieve comparable authority when farming full time on homestead plots.

Males are predominantly responsible for purchasing agricultural inputs, including equipment hire. Male homestead/household heads provide the majority of agricultural expenses, while brothers and sons also contribute towards these expenses. Women's contribution to agricultural expenses comprise only one-fifth of total agricultural expenses within this sample. Women have less access to cash, and when they do have it, they tend to pay for immediate household needs such as school fees, food, medical expenses and clothing.

Although male respondents seem inclined to uphold the traditionally powerful role of the man in homestead and agriculture decisions, it appears as though women play a substantial role in decision making. It is difficult to ascertain precisely what role each gender plays in decision making when members of each gender so obviously favor themselves when responding to questions concerning decision making. It seems clear, however, that women frequently are consulted on decisions in the homestead when men are present.

When men are absent from the homestead, women have primary responsibility for agricultural decisions. This is especially true as the length of male absence increases. Because Swazi males must increasingly seek off-farm employment, it is assumed that women shall bear more responsibility for all agricultural decisions in the future. Males may maintain control over major (or policy) decisions in agriculture, but females make all day-to-day decisions and maintain the homestead including agriculture in the absence of the male.

Carlioni's (1982) FAO study of credit and marketing of small holders in Swaziland suggested that women members of irrigation schemes pay for all expenses on their plots, make all agricultural decisions and have the right to decide how earnings shall be spent, after showing their earnings to their husbands. This is perhaps an overstatement, however, women engaged in cash-cropping do seem to feel, that they maintain some control over agricultural production and decision making. This seems particularly valid when women obtain a surplus, or profits on crops, other than maize. Maize production is so integrally tied to homestead subsistence and tradition, that male control predominates over this aspect of agricultural production.

Women may be contributing extraordinary amounts of farm labor and playing a substantial role in agricultural decision-making, but they are unable to provide a significant contribution to financing agricultural endeavors. Women's lack of cash obviously constrains their control of agricultural production. Further, women frequently stated that money provided for homestead agriculture was frequently late and often insufficient to insure successful agricultural production. Consequently, women are

dependent upon men not only for the money for agricultural inputs but also the amount of money men are willing to spend on agriculture and the time when they send it.

#### Access to Extension

Approximately 60 percent of respondents claimed to have received agricultural information from agricultural extension personnel. A higher percentage of male respondents (75 percent) received agricultural assistance from this source than female respondents (57 percent). Further, male respondents tended to consult with extension personnel more frequently than females interviewed in this study.

When male respondents consulted with agricultural extension personnel they were more likely to receive information individually, than to attend a field/or cooperative meeting to obtain advice on agriculture. Although women were also receiving information on an individual basis, they were more likely to receive assistance from agricultural extension personnel in a group setting - either a "field day" or cooperative meeting.

The majority of respondents claimed to utilize advice received from agricultural extension personnel. A greater percentage of males claimed to have implemented advice received from these officers than female farmers interviewed. Further, a larger percentage of women than men interviewed claimed to be unable to utilize advice for financial reasons or because advice was received too late.

Less than half of the study respondents had consulted with a home economist. The highest incidence of consultation with the home economist occurred on the Kalanga Irrigation Scheme and with the CRDA women's

cooperative. The majority of information received from home economists concerned agriculture and nutrition.

It is of course not possible to draw conclusions on the status and accessibility of extension services in Swaziland, from this small sample. The present pilot study does, however, suggest several trends that require further consideration and investigation.

The incidence of consultation with agricultural extension agents may well have been exaggerated by our respondents. One woman who claimed to obtain agricultural information from "field-days" also stated that she could never find out when field days were held. Similarly, a male respondent who said he received agricultural information from extension agents went on to add that he neither required or sought information from this source. From these rather vague and contradictory responses it might be assumed that respondents felt that saying that they received information from agricultural extension agents was the perceived appropriate response. Therefore, it might be inferred that the incidence of consultation was actually less than respondents claimed.

With the exception of irrigation scheme members, most farmers in the sample areas in this study do not have sufficient access to accurate, timely sources of agricultural information. Nevertheless, judging from the high incidence of hybrid seed use and utilization of "modern inputs" it seems clear that the farmers interviewed in this study were approaching farming quite seriously and scientifically. Despite their attempts, a recent study has shown that a substantial number of Swazi farmers merely use guesswork when purchasing and applying chemical inputs (Magagula, 1978).

Male farmers appeared to be able to achieve more success in terms of producing a surplus than females, however, farmers of both sexes had obviously spent money and time trying to achieve success.

Male farmers included in this study received the most information from extension officers (75 percent of respondents) and achieved a high incidence of surplus or cash-crop production (83 percent). Female farmers, on the other hand, received less information (57 percent) and were less likely to produce a surplus. Fifty percent of women respondents had surplus and/or cash crops, although they utilized hybrid seed and chemical inputs. It is possible that women farmers are simply guessing on modern agricultural methods and technology, and consequently cannot produce their crops efficiently and effectively. Also, women may not have access to the same amount of labor and financial resources as the men. Women perform an abundance of labor in nonagricultural activities, thus limiting their available time and energy. Certainly, this is an area that requires further research.

Within the limited boundaries of this study, the findings suggests that women's access to agricultural extension services increases when they are members of a recognized group or cooperative. All women interviewed on the irrigation schemes had equal access to extension services as their male counterparts. Access to agricultural information also increased for women respondents in the central RDA, upon taking membership in the cooperative. Respondents in CRDA claimed that their cooperative was actively recruiting male members, to increase their power, recognition and influence within the RDA and the community. Male farmers access to agricultural Extension Services also increases when they become members of a cooperative. It

seems clear therefore that both male and female farmers receive more assistance when they act as a group.

Women receive more agricultural assistance when they are members of a group, because they are more accessible in a group. If, as Barnes (1979) pointed out, it is inappropriate for male extension workers to visit females on the homestead when males are not in attendance, group meetings may be the most appropriate means to reach the women. Although, extension agents visited female farmers in the irrigation schemes individually, this meeting occurred away from the homestead in a professional atmosphere and in the presence of other male farmers. Certainly, our findings that suggest that women were more likely to obtain assistance from agricultural personnel in a group setting, would tend to support this conclusion.

### Marketing

The absence of viable marketing strategies for small-scale farmers in Swaziland is undoubtedly a major constraint towards successful adoption of cash-cropping activities. Although, many farmers exhibit interest in pursuing full-time farming as an occupation, markets for agricultural produce are limited, sporadic and/or usually inaccessible. Sibisi has stated that "the greatest constraint on maize production is marketing" (1981:3). She continues by pointing out that even successful "Keen farmers" limit their agricultural production and adopt other nonfarming business activities so that they may make a living.

Farmers are simply at the mercy of whomever is available to purchase their crops because they have no alternative market. In fact, farmers have no available information on what crops are in demand and where the

markets are. Actually, there is a large demand for vegetables in the Republic of South Africa and in the urban areas of Swaziland, but farmers have no access to this market directly. Consequently, they must accept whatever offer is made to them or they loose everything.

If cash-cropping is ever to become a viable alternative to wage employment (or even an alternative source of income), then farmers must have markets that are fair, reliable, consistent and accessible. Certainly, if the government marketing program provides transportation and cold storage to assist in marketing produce, then the problem shall be substantially reduced at least for vegetable and fruit producers. Nevertheless, farmers must also have assistance in receiving current market information so they may adapt successful production and marketing strategies. Without assurance that reliable markets are available for the production of expensive agricultural endeavors, farmers will simply be unable to accept the heavy burden or risk.

#### Constraints to Farming

In sum then, farmers in this sample experienced a variety of difficulties in their agricultural endeavors. The most predominant constraints according to farmers were:

- Expense of agricultural inputs;
- Pests and plant disease;
- Environmental problems, specifically drought;
- Mechanical difficulties with irrigation equipment.

Both male and female farmers considered the high cost of agricultural inputs and equipment hire to be a major constraint toward successful farming. Male and females were also equally concerned about the problems caused by the failure of the irrigation equipment.

Obviously, environmental factors effect both women and men farmers equally, but women suggested this was a major constraint far more frequently than male respondents. Similarly, although farmers on both genders face difficulties with pests and weeds, women farmers seemed to perceive this as a major difficulty more often than their male counterparts.

It would appear that the most critical difference in constraints faced by male and female farmers is directly related to their access to particular resources: i.e., labor, knowledge, and cash. Women probably perceive pests and plant diseases as a particularly serious problem as they possess neither the knowledge or cash to combat these problems. Similarly, weeding may present a far more serious problem to women farmers, because male farmers can tap more labor resources. In other words, women must work harder to control the same weeds.

Thus, although male and female farmers may face similar constraints in small-scale agriculture, the alleviation of these requires different strategies for men and women. It is precisely for this reason that women farmers must be targeted for substantial assistance in agriculture. Their needs are more pressing, more critical and more integrally tied to the future success of agricultural development in Swaziland.

## RECOMMENDATIONS

For the agricultural development policies of the Government of Swaziland and USAID to succeed, it is imperative that substantial and concrete strategies be designed and implemented which address the needs, assets, and constraints of Swazi women farmers. These farmers, who comprise not only the bulk of the agricultural workforce, but also possess the knowledge, experience, and commitment to farming to make increased agricultural production on Swazi Nation Land a reality.

Although women represent a potentially powerful force for economic and social change, the successful delivery of economic development to this gender will require a considerable change in existing agricultural development programs. Further, the successful integration of women into agricultural development will necessitate the creation of programs and projects which specifically address the potential and constraints of women farmers.

Although there is a natural tendency to simply increase or intensify existing agricultural services to encompass the female population, it is doubtful that this strategy shall succeed in enabling women farmers to realize their full potential in agriculture. Assistance to women farmers must specifically address existing needs and constraints which restrict women's participation in agricultural development, particularly their restricted access to information, cash, credit, labor, and government assistance. Specific measures to assist women farmers should include the following recommendations:

1. Workshops and education materials for extension personnel should be designed to stress the substantial contribution that women make to the agricultural sector and their importance as modern, knowledgeable agriculturalists.
2. Extension personnel should be provided with an understanding of the important relationship between assisting women farmers and the achievement of national agricultural goals, through workshops, existing reports, and manuals.
3. The delivery of extension is typically differentiated by sex. Given this fact, women are far more likely to meet with a home economist than an agricultural extension worker. Although home economists do provide some agricultural information, their knowledge of agricultural techniques and strategies is not as extensive as the agricultural extension workers. Consequently, women farmers do not benefit as much from this consultation. Therefore, it would be beneficial for home economic officers to receive additional training to increase and upgrade their agricultural knowledge and skills. Additionally, agricultural extension personnel would benefit from a training program in areas typically covered by home economists,

such as nutrition and health. Because the efforts of these extension branches overlap and compliment each other, it is suggested that efforts to improve coordination between the home economics and agricultural extension section of the MOAC would increase the delivery of information on agriculture, nutrition, and diet.

4. Efforts to increase the number of female extension personnel are currently being implemented. For example, it is one goal of the MOAC and the Cropping Systems and Extension Training Project to increase the number of women agricultural extension personnel from 15% to 20% of the extension force. Although this may, in fact, increase the accessibility of extension workers to women farmers, this effort will not in itself guarantee the ability of women farmers to increase agricultural production and participate effectively in development programs. This is due to the fact that women lack access to other important resources such as cash, credit, and labor. Therefore, efforts must be made to ameliorate these constraints in addition to providing current, reliable sources of agricultural information.
5. Because women tend to receive extension assistance and training more readily when they are organized as a group, such as in a cooperative, it is recommended that extension personnel and the CSRT team utilize existing organizations to provide agricultural training and assistance. Furthermore, it is suggested that the MOAC and the CSRT Project actively support and assist in the organization and maintenance of such groups.
6. In order for women to be able to engage in successful commercial agriculture, appropriate strategies must be designed to enable women farmers to obtain credit to improve their agricultural technology. This might be achieved through the creation of cooperative structures where women farmers could obtain credit as a group, through group liability.
7. Ongoing research conducted by the CSRT Project team provides one appropriate and favorable vehicle for undertaking additional research on Swazi women farmers. Research demonstrations conducted on homestead farms, managed by women, should allow the CSRT team to obtain important information on:
  - a. The sexual division of agricultural labor;
  - b. The current knowledge of women agriculturalists and their specific needs for additional agricultural knowledge;
  - c. Seasonal labor constraints and demands;
  - d. The impact of homestead organization type on homestead farming and women farmers (i.e. differentiated farming practices of polygamous, extended, and nuclear homestead organization);

- e. The relationship between wage-employment and commercial homestead-based agriculture;
- f. Appropriate development strategies for delivery of agricultural development to women; and
- g. The needs and constraints of women farmers working with the CSRT team.

This agricultural, social, and economic information should provide crucial data for farming systems research and training endeavors. Nonetheless, it is recognized that due to time and personnel constraints, additional research on women must be undertaken by other projects and/or individuals to adequately address this issue.

- 8. It has been recognized in this and other studies (Saunders, Carloni, etc.) that a lack of accessible, profitable markets for agricultural produce has severely restricted the establishment and success of commercial farming endeavors. The USAID CDSS update (1985) suggests that USAID should encourage the expansion of efficient profitable markets for fresh and processed produce, for current and proposed agricultural projects. It is recommended that the CSRT increase their efforts to assist farmers to research and develop viable, profitable markets to help project participants recognize a fair profit for agricultural produce.
- 9. The introduction of new agricultural methods or production strategies should take into account that women are likely to perform the agricultural labor, as well as most other time-consuming homestead activities. Therefore, if possible, an effort should be made to introduce new crops and technologies that are not labor intensive.
- 10. Cropping systems recommendations regarding the application of chemical technology should be administered with caution since women frequently work in the fields with their infants and young children and they lack adequate protection from and knowledge of these chemicals.
- 11. Differential incentives to engage in commercial agriculture should be acknowledged and understood. Women may engage in commercial farming as a viable economic alternative to handicraft or beer production, whereas men have, though to a lesser degree than previously, the more lucrative alternative of wage employment. The incentive for women will be greater if they are able to retain some control over agricultural production and investment. As noted earlier, women tend to be more effective agricultural producers when they are members of agricultural organizations, such as the irrigation scheme cooperatives, which allow them to maintain more control over agricultural decisions and profits.

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Resources

Where does money come from and who decides how to spend it for:

	<u>Dryland</u>		<u>Irrigation</u>	
	<u>E.</u>	<u>Decision</u>	<u>E.</u>	<u>Decision</u>
Seed/Fertilizer				
Ploughing				
Painting				
Pesticides				
Other _____				
Where does money come from for:				
School fees				
Purchased foods				
Household items				
Other major expenses?				

PRIORITIES FOR EXPENDITURES

For what do you need money?

If you had more money, how would you spend it?

Does your spouse have the same priorities for spending money?

Why? Whose idea? Who decides when husband or household head is absent?

Where do you receive agricultural information?  
Other farmers?  
Husband/wife?  
Extension?

How often does the extension worker visit your house?  
Is this amount enough?

Who does the extension worker speak with when visiting.  
Why?

Do you practice recommendations you received from extension workers? why/why not? What information?

Does Home Economist visit your house?  
If yes, how often?

Does Home Economist give you information on agriculture?

Do you practice recommendations you received from Home Economist? why? why not? What information?

Do you own?

Who care for?

Full

Part

Cattle \_\_\_\_\_

Goats \_\_\_\_\_

Chickens \_\_\_\_\_

Sheep \_\_\_\_\_

## MARKETING

If have surplus maize, where is it sold?

If have cash crops, where are they sold?

Why did you decide to market these crops in this way?

Do you have any problems marketing? What? Why?

Who spends the money received from these cash crops? How is it spent?

If handicrafts or beer are marketed ,how are they marketed and where?

Do you have any problems marketing these?

Who spends the money recieved from these handicrafts/beer?  
How is it spent?

## CONSTRAINTS

According to your experience what do you consider as your greatest constraints in farming?

Homestead:

Irrigated:

What suggestions do you have as a means of coping with such constraints?

Would you like to make any changes in the type of crop(s) you grow at present? i.e. do you wish to introduce, increase, decrease or omit the cultivation of a crop?

If yes, would these changes be intended mainly for home consumption, for sale or both?

Is there anything you would like to learn about agriculture?  
If so, what?